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THE PROSPECT FOR CHEAPER RUBBER

THE price of crude rubber received special attention in the first issue of THE INDIA RUBBER WORLD, something more than twenty years ago, for the reason that, while 60 cents a pound had been considered a normal price, manufacturers were then being charged several cents more. The question was, whether the industry could survive the infliction. Of course there was much trade gossip regarding "speculation" as the cause of the advanced price of rubber, and no little bitterness in the minds of the consumers in consequence.

At the London rubber auction on March 22, 1910—a function which no one is forced to attend, and where every man is free to bid what he thinks proper, after an inspection of the samples exposed—rubber actually changed hands at 11 shillings [= \$2.67] a pound. In other words, \$2 a pound more than the price which was spreading consternation in the trade at the time THE INDIA RUBBER WORLD was first getting on its feet.

Of course so high a price as the record made at the last London auction cannot be maintained permanently. And of course the price was paid for a choice small lot of specially prepared rubber. But the fact remains that 11 shillings per pound has been paid for rubber, and we see no reason for believing that a still higher price will not be paid for rubber before the end of summer.

THE AMAZON RUBBER CONGRESS.

OUR REPORT BEGINS IN THIS ISSUE.

Of late the consumption of rubber has been actually larger than the world's production, and at no time in the history of the trade has the industry, in all lands, been so active as today. The Amazon crop for 1909-10 has been gathered, and it will be nearly a year before the next crop will be available. Meanwhile the Eastern plantations are making shipments regularly, on a constantly advancing scale, but so far the plantation output has been hardly more than "a drop in the bucket," compared with the world's needs. What it will amount to later is another story.

Even the best plantation rubber will not always bring 11 shillings. Doubtless many planters will be pleased, before THE INDIA RUBBER WORLD is twenty years older, to get 2 shillings for their product, but they will make money even at that price.

Meanwhile there is not enough rubber "to go round." This is a broad, general, proposition. "Speculation" of course, is ever present in the rubber trade, as it is in every branch of trade in which the human race is interested. But speculation does not account for the advance in the price of rubber from 60 cents, in 1889, to \$2.67 in 1910.

THE INDIA RUBBER WORLD has been the apostle of rubber planting, from the beginning. It is today. Our position always has been that dependence upon forest products means the ultimate decadence of the rubber industry. As our readers know, we have studied at first hand the planting of rubber in the Far East, but the results there, promising as they are, do not meet the requirements of today. Hence our attention is turned now to the Amazon region—the home of the *Hevea* species—with the idea that forest rubber must be for a long time yet an important factor in meeting the world's demands for a most important commodity.

The very important distinction remains to be made, however, that the term "forest rubber," in the generally accepted sense, is ceasing to be applicable to the *Heveas* in South America. As our friend, Mr. Fischer, of the Liverpool trade, said publicly some time ago, the well laid out *seringal* in Brazil is already a "plantation." Already the *seringa*es are sending to market every year more than half the world's supply of rubber, and rubber which uniformly commands higher prices than any other—with the exception of the carefully cleaned plantation product.

The next development on the Amazon will be the clearing out of the forests now surrounding the wild trees which already bring so many millions yearly into north Brazil, and the planting of young *Hevea* trees in the intervening spaces. Will it take time? Yes. Will it cost money? Yes. But such considerations need not deter the men who already own the naturally planted trees which now furnish the world with the substantial part of its supply of rubber.

AMAZONIA VERSUS THE EAST.

THE function of THE INDIA RUBBER WORLD as a representative trade paper brings it in contact sometimes with widely conflicting interests. From the beginning this journal has been a constant and persistent advocate of rubber culture, on precisely the same principle which would lead one to advise planting potatoes, rather than have the world depend upon the natural supply. By the way, the potato, like caoutchouc, was first introduced to the world at large from Quito. Similarly mention may be made of the cinchona plant (the source of quinine), first discovered in the forests of Peru and profitably introduced to cultivation in the Far East by individuals who, later, encouraged by their success with cinchona, transplanted the Amazon rubber tree to Ceylon. The modern world cannot live without potatoes or quinine or rubber. And it cannot depend upon natural sources of supply.

But it does not follow that all the money being invested to-day in the scores of companies mentioned in this paper in each issue under the heading "The British Rubber Craze" will ever yield dividends. The returns of 40 per cent., 60 per cent., and even 80 per cent. in the case of certain rubber plantation companies have been honestly earned, and we should not be surprised to see the largest figure mentioned doubled within a very few years. Without doubt, the cultivation of rubber offers the greatest possibilities in the way of honestly earned dividends of any business in which the public of any country has ever been allowed to invest. But the biggest dividend payers so far are companies in which the public has not been invited to participate.

No doubt, every day sees the birth of a rubber plantation company which will prove astonishingly prosperous. The public, however, invest in this business without discrimination. One rubber company yields 80 per cent. on its capitalization; another company may do the same thing; therefore people buy shares in the first new company that is announced. We reported lately the issue to the public of £50,000 in shares by a company formed to work out a new and untried proposition in wild rubber, and the subscriptions received in one day amounted to £1,110,000—or twenty-two times as much as was asked for. And this sort of thing is repeated daily in London.

One mistake which our transatlantic friends have made in regard to rubber, as has been pointed out in THE INDIA RUBBER WORLD, is assuming that plantation products from the Far East will drive the forest rubber areas of the Amazon out of competition. It is true that the world no longer derives potatoes from Quito, or quinine barks from Peru, but the rubber situation on the Amazon differs in many ways from the other interests mentioned. Rubber is in vast demand and the millions upon millions of trees now yielding this material, on the ground where nature planted them, are being guarded by a lately awakened public intelligence as closely as any gold miner ever protected his rights to a "find." One may as well

argue that the cotton planters of the United States will retire from business because a few Britishers are producing good cotton in Africa as that Brazil will cease to produce rubber on account of what many Britishers are doing in Asia.

There were no rubber trees in Ceylon, and extensive rubber forests were created there. There are rubber trees already in the Amazon countries which in a year yield about 85,000,000 pounds of the best rubber ever known, and great profits to people who manage their business with intelligence. It would be a simple matter for the rich owners of large *seringa*es to remove from the properties all the forest growth but rubber and to substitute rubber trees. They can also introduce cattle and the cultivation of vegetables—instead of importing food—and while waiting for a few years for the growing rubber to become productive, derive handsome profits from the giant trees already on the ground.

THE INDIA RUBBER WORLD believes in rubber culture to-day even more than at any time in the past, but it believes no less earnestly that an improved rubber régime in the Amazon region is at hand. Another way in which to put it is that rubber will yet be planted in South America under the system the Britishers have developed in the East. There will always be such a demand for rubber as will insure a profit in this production, and however much Ceylon and Malaysia may produce, Brazil will be called upon continually to increase its output.

Meanwhile, it is wise to deliberate before investing in any sort of rubber-producing enterprise in whatever country, precisely as one should deliberate before buying bank stocks or "gold bricks."

LIKE INVESTMENTS IN THE MOON.

HERE is more than one form of rubber craze. The frenzy of the British investor to put his money into planting shares is more comprehensible than the fiction which finds space in the columns of sober American newspapers and later forms part of the stock of knowledge of the reading public. Let us look into the columns of the New York *Tribune*, owned by the American ambassador at the Court of St. James's, and regarded by itself and by many devoted readers as one of the most carefully edited newspapers existant. A leader in the *Tribune* of March 13, 1910, begins:

The extraordinary activity in dealings in shares in india-rubber companies on the London Stock Exchange recalls a remark which was made by the late Collis P. Huntington to a representative of this paper, perhaps twenty years ago. He was discussing the future industrial developments of the world and the prospective opportunities for the making of fortunes, and the conclusion to which he came and which he unhesitatingly expressed was that no young man could do better than to invest his means in rubber forests or plantations in Central Africa. A good rubber plantation, he declared, was to be preferred to a gold mine. That estimate appears to be verified at the present time [and so on].

The fact is that the connection of the name of Huntington, the greatest American railway builder of his time, with rubber was due to a surplus of imagination in the

office of the New York *Herald*—not the *Tribune*. When ever a *Herald* young man felt disposed to dream rather than work as a means of gaining access to the cashier's window, he prepared an interview with Collis P. Huntington on the duty of young men of business instincts to go in for African rubber.

One day THE INDIA RUBBER WORLD decided to interview the railway king regarding his reported interest in rubber gathering on the Congo. And the result appeared in the issue of this journal of March 10, 1895 (page 176):

"I have none," he said. "I know nothing of the interview with me in the *Herald*. I never could have said anything of the kind. I know so little about rubber in Africa that I would no sooner advise any one to invest money in the industry than I would advise him to make investments in the moon."

What keeps the Huntington rubber fiction alive is most incomprehensible. Cold facts about rubber today are apt to be forgotten tomorrow even by the people who have most reason to keep informed on the subject. Perhaps the best explanation is to be found in the expression by Barnum, the one-time great circus proprietor, who excused certain palpably fraudulent exhibits on the ground that "the people like to be humbugged."

There can be no doubt that many of the excited investors in so-called rubber planting propositions today are as little informed regarding rubber as Mr. Huntington admitted himself to be. Moreover, they probably would make "investments in the moon" just as readily, if an attractive moon prospectus appeared. And if they lose, probably no complaint will be heard—if it be true that "the people like to be humbugged."

AN "OFFICIAL ORGAN."

"THE INDIA RUBBER WORLD," the official organ of the rubber trade.—*The New York Herald*, March 3.

OUR first thought on reading this complimentary mention in the columns of an esteemed contemporary was that it was not exactly correct. This paper has not been elected or appointed to any specially defined post by any representative body of the rubber trade. But on second thought reference was made to "The Century Dictionary," where, on page 4092, one of the definitions of the word "official" reads:

Performing duties or offices; rendering useful service.

In this sense we feel complimented, not only by *The New York Herald*, but by the whole rubber trade—on every continent—which, by its continued generous support, indicates that the paper, during more than twenty years, has been "rendering useful service" to its patrons.

HOW TO CHECK THE RUBBER BOOM.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Our crude rubber market of late has continued to rise, and the leading papers in London, even those of the most conservative nature, affirm that nothing equal to the present boom has ever taken place on the Stock Exchange. Rubber seems to have taken the

lead of everything else, dethroning even gold mining speculations of the wildest form ever recorded in the annals of the Exchange. The oldest and best informed authorities affirm that there is no sign of an early abatement of the present fever. The prices of the crude rubber also seem to offer a more preponderant inclination to rise than otherwise, latest quotations at Liverpool being 10s. 8d. for April-May delivery. This means we shall have high prices for the rest of the year, if consumption keeps the present level.

What is now taking place confirms my opinion that the time has come when leading manufacturers must make an effort to maintain the necessary equilibrium in the primary markets, so as to check the terrible oscillations which speculation will be capable of producing forever, unless hindered by powerful and intelligently handled combinations. It is true these oscillations are likely to give us a fortune this year, just by our pluck in holding back the sale of our stock, and I should not quarrel with any state of affairs which benefits our concern to the tune of so much more over and above our ordinary profits, than if the market was steady. But from a purely economic standpoint, and viewing the consolidation of the automobile trade and every commodity in which rubber enters largely—in a word, as a matter of protection to both producer and manufacturer—I would rather see the market weeded of this obnoxious speculative element, with its kaleidoscopic surprises that are seldom advantageous to either producer or manufacturer, and mostly injurious to both, simultaneously.

Of course, I am not so optimistic as to believe that speculation can ever be totally eliminated, but I venture to affirm that it can be kept within such circumscribed bounds that speculators will seek other spheres of action. I believe that the violent and brusque oscillations that we are witnessing can be checked, with a steady price ruling for every season. Look at what has been achieved by the Brazilian government in regard to the prices of exchange. No one thinks of speculating on it nowadays, because the margin is not sufficiently tempting. Mind that this device grew out of a simple conversation of mine with a statesman who had the courage of putting it in practice, and its success has brought the nation millions in favor of legitimate commerce that would have otherwise gone towards swelling Stock Exchange speculators.

The next point which, to my mind, deserves the immediate attention of the Captains of the Rubber Industry, should be the aim at getting nearer mother earth than they are at present. When you glance at the list of successes which have followed the control of crude materials from their primary sources, by manufacturers, you cannot help recognizing that the principle which has given such marvelous results must be economically sound. Take Pears, for instance, who have owned their coconut estates, from which they have derived the oil which has made their soap famous. The greatest chocolate manufacturers of the world—such as Epps, Fry's, Cadbury, Menier, Van Hooten, and Suchard, all own their cocoa estates. Steel corporations mine their own ore and handle it right through until it gets to the consumers' hands.

While on this point I may mention that the government of this country is offering special advantages to any who may build factories for rubber goods, and I think Brazil as good a field as any in South America, from any standpoint you wish to consider the country as a whole. And it behoves the American manufacturer to take in the situation and improve the opportunity for developing an industry that only needs to be started to be a huge success.

A PARAENSE.

Pará, Brazil, March 16, 1910.

MR. T. C. REDFERN, managing director of Redfern's Rubber Works, Limited, of Hyde, near Manchester, England, was a recent visitor to the United States and Canada when he favored THE INDIA RUBBER WORLD offices with a call.

A GOOD RUBBER FOOTWEAR SEASON.

THE season which is just closing in the American rubber shoe trade has been one of the best ever known in the industry. This has been largely due to the fact that blizzards and snowstorms have been general over the entire territory of the United States. No single section has escaped an excessive number of snowstorms. The result of it has been that everywhere in the country stocks of rubber footwear are depleted. This is true not only with regard to the retailers, but also true with regard to the jobbers and the manufacturers. A representative of the United States Rubber Co. said, concerning the present situation:

"This has been the best season in the experience of the company. Beginning early in the fall there occurred snow and rain storms all over the country that called on the retailers for their full stocks of goods. Before Christmas we began to feel the result of these weather conditions. Repeat orders and duplicate orders were poured in upon us from all parts of the country. There were many rush orders which were so insistent that we were scarcely able to fill the demand. The jobbers had not bought very heavily last spring because the retailers were fairly well overstocked. This was due to the unusually mild winter of the previous season. As soon as the bad weather began to appear, however, there was a heavy rush upon the retail merchants, and in order to keep up with the demand of the actual consumers these merchants began pouring in telegraphic orders upon the jobbers, who had in turn to order from the manufacturers.

"This condition created a pre-holiday demand which, if the bad weather had not continued, might have been the end of the business. But, as you know, beginning with Christmas week, the entire country was covered with blizzards and snowstorms. The result was that the early demand was not sufficient for the consumers. People had to have rubbers and they had to have them quick. Orders came to the manufacturers in a volume never before known, and the demand has kept up from the beginning of the new year until the present time. Never before has there been such a succession over as wide spread a territory of storm conditions. Even the south has had snow storms beyond anything ever known before.

"We have found that our business has increased not only in those parts of the country which have heretofore been subjected to severe weather conditions, but way down in Texas, Louisiana and lower Mississippi, the demand for rubber footwear has been unprecedented. You understand that there are some sections of the country that have a considerable amount of snow every year and these sections furnish our dependable regular trade. It is when the other sections, those that ordinarily have few severe storms, suffer from adverse weather conditions, that we get this extraordinary demand. I believe that it would be safe to say that not for very many years has there been a condition where all the stocks—retail, jobbing, and factory—are as thoroughly depleted as at the present time. It would be impossible to say that there has been any extraordinary demand for any given type of rubber footwear. The demand has been created by weather conditions, and under these circumstances the consumer buys what he can get. The volume of sales of the United States Rubber Co. probably will be found to be the best in its history."

* * *

In discussing the situation of the rubber footwear trade, a member of one of the largest firms of jobbers in New York city, and one not particularly allied with the manufacturing interests, said:

"Our own business is largely confined to New York city and adjacent territory. During the past season, however, it has been better than ever before in rubber footwear. At the beginning of the season the retailers were pretty well stocked, but the storms of the early winter cleaned their shelves rather thor-

oughly, and we began to feel the press of orders before the first of January. This has kept up until the present time, and to-day we are receiving hurry up orders from retailers who cannot meet the immediate demands of their customers.

"In volume of pairs this has been the largest year we have ever had in the shoe trade. It has not, however, been the largest year in the total amount of money received. The reason for this is the change which has occurred in the character of footwear that is demanded. As I said before, our trade is largely in the big cities. Every year these cities are succeeding in cleaning off the streets quicker and better than ever before. This results in their being a demand for lighter rubber goods than ever before. Each year we find in our territory that fewer boots and arctics are used, and more sandals and light rubbers. The better cleaning of the streets also makes more people go without rubbers entirely. This year, however, there were a number of sudden storms that caused people to hurry to the nearest store and fit themselves out with rubber footwear.

"As far as I am able to judge, the retailers in this section of the country are very nearly sold out. We expect a big business next year, in spite of the high prices of rubber goods. People must have rubber footwear no matter what it costs, and we have not found, when there have been a series of storms and widespread inclement weather, that price made much difference in the volume of sales."

* * *

The manager of the shoe department of one of the largest department stores in New York said, with regard to the rubber shoe sales of the past season:

"The numerous storms of the past winter have kept us hustling to the jobbers to keep enough rubber shoes on hand to fill immediate demands. Every time that one of these heavy snows came, followed by a lot of slush on the streets, our aisles were filled with customers who wanted rubber covering for their feet before they left the store. When we were not able to give these people exactly what they wanted they generally took what we were able to give them.

"We carried over a considerable stock of rubber footwear from last season, because, as you know, that season was exceptionally mild, and the only severe storms which occurred were so late that many people put off buying. This year the storms began early and were fairly consistent. The result has been an unprecedented rush. Time and time again our stock clerks have reported that we must have more rubber footwear. The result has been that we have bought and have sold more rubber shoes this season than in the past two or perhaps three seasons. At the present time we are none too well stocked, and on account of the prices of rubber goods are not anxious to buy immediately."

A CONSPICUOUS success among automobile accessories during the past year has been the Twitchell air gage, for registering instantly the air pressure in tires. This has been illustrated and described in THE INDIA RUBBER WORLD (April 1, 1909—page 254). A statement during the past month was that during one year more than 100,000 of these gages had been sold, all over the United States, they having been ordered largely by tire and automobile manufacturers. A traveling representative is now in Europe, conducting a campaign for the introduction of the gage in Great Britain and on the continent. Mr. W. D. Newerf, of the W. D. Newerf Rubber Co. (Los Angeles, California), who control the Twitchell gage says: "Out of the last 90,000 gages manufactured we have had to replace less than one dozen, although all were sold under a guarantee insuring absolute accuracy."

Under the customs laws of Japan imported bicycle tires hereafter will be classed not as rubber goods but as parts of bicycles.

A book for rubber planters—Mr. Pearson's "What I Saw in the Tropics."

RUBBER CONGRESS AT MANAOS.

THE Congresso Commercial, Industrial e Agrícola, organized by the Commercial Association of Amazonas, with the support of the government of the State, and held at Manáos February 22-26, will long be held in remembrance in connection with the unfolding of the new régime just now developed in the Amazon region. In control for so long of the world's supply of rubber, it is not singular that the North Brazilians should come to regard as impossible any menace to their interests from any source. But the challenge has come—from the rubber planters of the Far East—and Amazonia has hastened to the defence. This is the meaning of the Congress at Manáos.

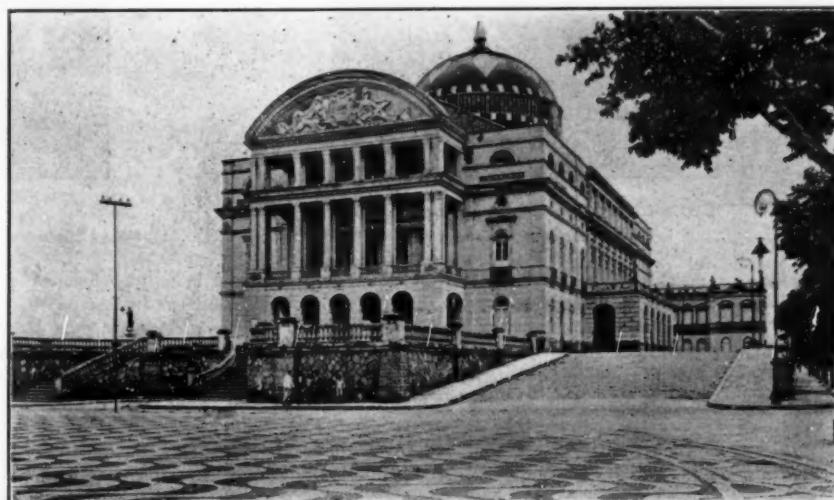
The new régime on the Amazon of course has its basis and center in the crude rubber trade which hitherto has been the sole interest of the people of that region. Not only has this been true of the past, but it will be true farther into the future than any one now living can hope to see. But rubber is destined to be produced under changed conditions, involving the introduction into north Brazil of agriculture, which in the modern sense of this term in North America and in Europe, has never existed there. The Amazonian *seringueiros* who to-day supply the world with more than half in volume of the crude rubber used, and vastly more than half in value, for the most part depend upon foreign markets for their food, clothing, and other requirements in life. The introduction of agriculture in Amazonia means making the *seringueiros* self-sustaining and independent of the outside world, with the ultimate result of a better systemization of the rubber producing industry and its more economical conduct, all of which leads to (1) better and more certain profits for the producers; (2) more certain and more regular supplies for consumers; and (3) a large reduction in the cost to consumers.

Hand in hand with this step

NOTE.—The present report of the Congress at Manáos, compiled from information supplied by "The India Rubber World's" correspondents on the Amazon, is preliminary to a fuller treatment of the subject by our Editor, who attended the Congress in person.

in progress must be improved commercial conditions, not only in the Amazon region, but between the states there and the outside world, which will facilitate the sale and transportation of rubber, and the foundations for which are already being laid. The Congress lately held at Manáos was essentially a rubber congress, for the reason that, as has been intimated in this article, there is no other interest on the Amazon river about which or in regard to which any kind of congress could be convened. At the same time it was properly described as a commercial and agricultural congress, its promoters having in mind the general proposition that the best development of the Amazon rubber interest involves general agriculture and the modernization of its commerce, instead of, as in the past, dealing with rubber as a sole interest, without regard to conditions existing elsewhere in respect of rubber or trade in general.

Too much cannot be said in praise of the Commercial Association of Manáos, whose enterprising management had the perspicacity to recognize the condition confronting their region, and to bring about a propaganda of progress such as the congress just held exemplifies. In no city elsewhere, perhaps, would any public movement whatever attract such general in-



THEATRO AMAZONAS (THE STATE THEATER) AT MANAOS, ON THE UPPER AMAZON.

[The building in which was held the Congresso Commercial, Industrial e Agrícola, February 22-26, 1910. The salon in the great theater where the Congress held its sessions is perhaps as beautiful a meeting place as any business body were ever fortunate enough to occupy. Rectangular in shape, a row of lofty fluted columns reserved the space where were the seats of the delegates fronted by a great table for the president and secretaries. Outside of the row of columns was the assembling place of the reporters and friends of those engaged in the debates. At each end of the room were great mirrors which reflected and re-reflected the room until one gained the impression that a score of congresses all housed in elegant conference rooms were simultaneously at work. To speak of the great panels on either side of the mirrors decorated with beautiful tropical scenes in oil, of the crystal chandeliers, triumphs of art, of the ceiling covered with allegoric figures by De Angelis at his best, would be but to faintly suggest the artistic completeness of the whole. Mr. Pearson's two lectures were given in the evening, in the auditorium, which on both occasions was filled to the topmost gallery with an audience ranking from the Governor of the State down to the smallest clerks in the rubber houses.]

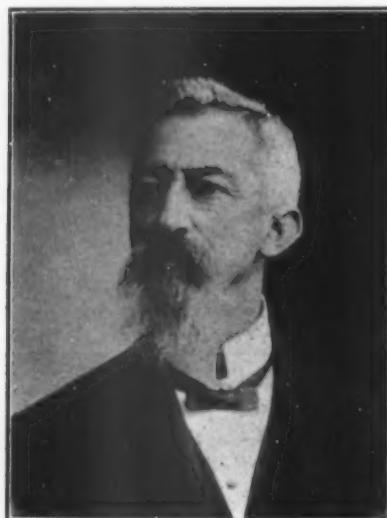
terest as did the rubber congress in Manáos. Not only the Commercial Association, composed of the leading merchants in the town, and the handlers of largely more than half the "Pará" rubber of commerce were interested, but all the rubber producers in the area of which Manáos is the center, general merchants, the whole body of the governmental authorities, bankers, transportation companies—in fact every intelligent element in Amazonia was represented at the sessions of the Congress by interested, forceful, influential men, intent upon setting on foot a movement for a revolution of business conditions.

A new régime this certainly is. And the old régime began not so long ago. There are men living to-day who remember when the price of Pará rubber was less than a shilling a pound, and when the output was insignificant. A recent important work on the botany of the Amazon region was brought out by a gentleman who studied the neighborhood of Manáos before the existence of rubber thereabout had ever been known, even to the natives. This journal in a recent issue reported the death of an American naval officer who was one of the first white men to visit the same

rubber was held, this being housed in the public library, also an attractive building. The newspapers reported the proceedings of the Congress very fully, going to the extent of printing the names daily not only of those participating, but of the general audience, which embraced representatives of the best society of the city. At the evening sessions admission was to be had only by ticket.

THE INCEPTION OF THE CONGRESS.

The first announcement regarding an industrial congress to be held at Manáos, representative of the best interests of the Amazon region, was contained in a circular from the *Associação Commercial do Amazonas*, under date of July 22, 1909. The general scope of the proposed congress was soon outlined, and a more or less detailed program of topics to be discussed, of which a summary was given in *THE INDIA RUBBER WORLD*, October 1, 1909 (page 7). The Commercial Association at Manáos has done much for the development of commerce in Amazonia, which is an earnest of what may be done in bringing about a



COLONEL ANTONIO CLEMENTE BITTENCOURT.
[Governor of Amazonas.]

region, his visit having occurred before the then small Indian trading village on the Negro had taken the name of Manáos. This also was before the discovery of rubber up the Amazon.

Manáos to-day has many of the characteristics of modern cities elsewhere—with fine buildings, electric lights, electric street railways, waterworks, and improved docks, accommodating ocean steamers which arrive frequently and regularly from New York and several European ports. It has banks likewise, four daily newspapers, and telegraphic communication with the world. How far away from "the world" it is, however, is indicated by the fact that *THE INDIA RUBBER WORLD*'s representative had to leave New York nearly two months before the sitting of the Congress, in order to be on time there; no letters mailed to him from the office reached him before the Congress sat, and the only medium of communication with him was the telegraph, at the rate of \$1.60 a word.

The visitors to Manáos on the occasion of the Congress were most hospitably received in official and commercial circles, and by the people in general. The sittings of the Congress were held in the beautiful State Theater, of which a view is given in this paper.

In connection with the rubber congress an exhibition of crude



SENHOR WALDEMAR SCHOLZ.
[President Manáos Commercial Association.]

better development of the "extractive industry," this being the term applied on the Amazon to the production of rubber. The president of the Manáos association, Senhor Waldemar Scholz, long has been identified in an important way with the rubber trade, particularly on the upper Amazon.

It will be remembered that when the International Rubber and Allied Trades Exhibition was held in London, in September, 1908, the federal government of Brazil neglected to provide for an adequate representation of that country. The state of Pará itself was represented only by exhibits arranged by individual members of the rubber trade. What saved the day for Brazil was the interest taken in the matter by the Commercial Association at Manáos, with the support of the Amazonas state government, with the result that the Amazon section was one of the most interesting at Olympia. [See *THE INDIA RUBBER WORLD*, October 1, 1908—page 40.] The Amazonas commissioner was Mr. N. H. Witt, the former head of and still a partner in the Manáos firm of Scholz. It was to be expected that, under such auspices, the Manáos Congress would prove a success. Practically all Manáos took a live interest in preparing for the Congress. Now that it is over and the work of a week, and that too during the busy season, can be critically surveyed, it

would be the most peevish of pessimists who did not pronounce it a success. Of the many subjects discussed that of rubber planting seemed the most engrossing.

WHO WERE IN ATTENDANCE.

THE membership of the Congress was for the most part composed of gentlemen who had been formally delegated by governmental, industrial, or commercial bodies, but a few others interested in the subjects under discussion are included in the list which we present, on account of their active participation in the proceedings. The sessions were attended, of course, by many other business men of prominence.

PRESIDENTS.

The Governor of Amazonas, Dr. Colonel Antonio Clemente Bittencourt (for the inaugural session only).

The Vice Governor of Amazonas, Senhor Dr. Antonio G. P. de Sá Peixoto (for the final session only).

Senhor Wildemar Scholz, president of the Commercial Association of Amazonas.

SECRETARIES.

Bertino Miranda, secretary general.

Dr. Castella Simões.

Colonel Raul de Azevedo.

Jeronymo Vicente Gomes.

DELEGATES.

Dr. Passos Miranda and Dr. J. Jacques Huber—Government of Pará.

Dr. Jonas Correa da Costa and Leopoldo de Mattos—Government of Matto Grosso.

Dr. Candido Mariano—Department of Alto Purus.

Dr. Hercules Weaver—National Society of Agriculture.

Dr. Eneas C. Pinheiro—Pará Society of Agriculture.

Dr. Antonio Monteiro de Souza and Laurencio Thury—Amazonas Society of Agriculture.

Dr. Carlos Rey de Castro—Republic of Peru and Chamber of Commerce of Iquitos.

M. Lamy Torrilhon—Syndicate de Caoutchouc, Paris.

Gaetano Tomez—Republic of Colombia.

Colonel Antonio J. da Silva, Jr.—Commercial Museum, Rio.

Municipalities.

Colonel Agnello Bittencourt—Manáos.

Colonel Raul de Azevedo—Barcellos.

Prudencio Boga de Sa—S. Gabriel.

Colonel Antonio Francisco Monteiro—Humaytha.

Colonel Secundino Salgado—Manicore.

Colonel Manoel Antonio Garcia—Silves.

Colonel José Furtado Belem—Parantins.

Dr. Elviro Dantas Cavalcanti—Manacapuru.

Dr. João Ricardo Gomes de Araujo—Canutama.

Dr. Castella Simões—Borba.

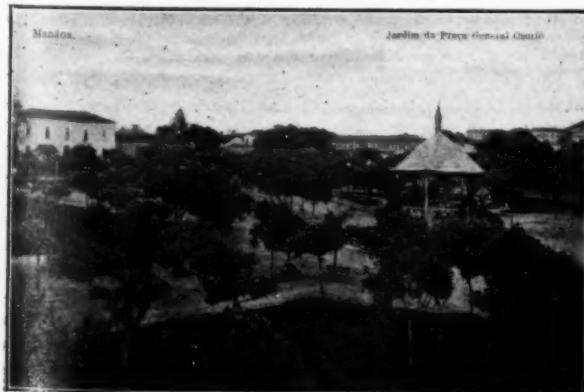
Alexandrinho Taveira Pão Brasil—Maués.

João Nazareth da Silva, Jr.—Urucara.

Dr. Geraldo Rocha—Itacoatiara.

Commercial Associations.

Senhor Emil Zarges—Pará.



JARDIM DA PRACA GENERAL OSORIO, MANAOS.
[Some planted rubber trees are shown.]

Colonel Jose Henrique de Souza and Domingo de Andrade—Parantins.

Dr. Domingos Th. Carvalho Leal—Itacoatiara.

Colonel Manoel Antonio Garcia—Silves.

Colonel Benedicto Alves Pinto—Urucara.

Colonel Antonio Francisco Monteiro and Leopoldo Mattos—Humaytha.

Colonel Secundino Salgado and Rafael Benoliel—Manicore.

Colonel Theodoro Botinelly—Canutama.

The Press.

Henry C. Pearson, editor in chief of THE INDIA RUBBER WORLD and president of The Rubber Club of America.

Dr. Angelino Bevilaqua—*La Hacienda* (Buffalo, New York).

M. Gabriel Gelly—*Le Caoutchouc et la Gutta-Percha* (Paris).

M. G. Sanders—*Journal d'Agriculture Tropicale* (Paris).

José Amandio Mendes—*A Província do Pará*.

Guilherme de Mello—*Folha do Norte* (Pará).

Dr. Lyonel Garnier—Amazonas.

Dr. Vicente Reis—*Jornal do Commercio*.

Dr. Adriano Jorge—*Correio do Norte*.

Dr. Benjamin Araujo Lima—*Diário do Commercio*.

Dr. Saturnino Santa Cruz de Oliveira—*A Notícia*.

The Navigation Interest.

J. Jennings—Amazon Steam Navigation Co., Limited.

Hugo Ohliger—Hamburg-American Line.

E. Schwabe—Manáos Harbour, Limited.

W. Robilliard—Booth Steamship Co., Limited.

Dr. Honorio de Barros—Lloyd Brasileiro.

Commercial Firms.

Jeronymo Vicente Gomes—Gomes & Co.

Raymundo Nonato de Moraes—Solheiro Motta & Co.

Edgar Freitas—Freitas, Ferreira & Co.

Antonio dos Santos Cardoso—A. S. Cardoso & Co.

Comendador Joaquim Goncalves Araudo—J. G. Araujo.

J. Mendes Cavalleiro—Mendes & Co.

Marinus de Vries—B. A. Antunes & Co.

Carlos Montenegro—Carlos Montenegro & Co.

Rodolpho Vasconcellos—Mello & Co.

Eduardo Fernandes—João Alves de Freitas & Co.

Samuel Levy—B. Levy & Co.

A. Cabral—S. A. Armazens Andrensen.

Emil Zarges—Dusendschön, Zarges & Co.

W. Stuart Gordon—Gordon & Co.

F. H. Sanford—A. H. Alden & Co., Limited.

Other Members.

Baron of Solimoes.

J. Teixeira de Souza.

R. Benoliel.

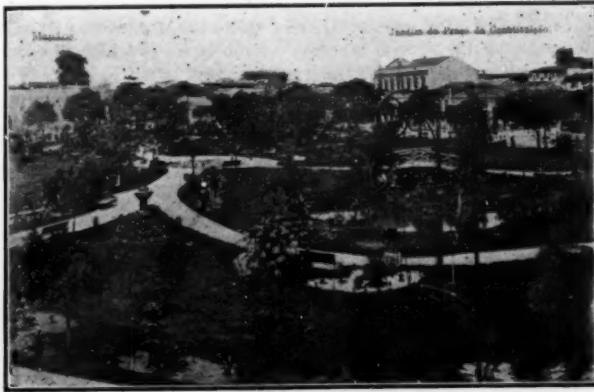
Paul Lecointe.

Captain R. Valle.

The members of the Consular Corps.

SUMMARY OF THE PROCEEDINGS.

THE formal sessions of the Congresso Commercial, Industrial e Agricola were preceded by three preparatory sessions, at the



JARDIM DA PRACA DA CONSTITUCAO, MANAOS.
[Some planted rubber trees are shown.]

Amazonas Theater, under the presidency of Senhor Waldemar Scholz, the head of the Associação Commercial of Manáos. At these preparatory sessions, held on February 19, 20, and 21, various preliminaries were discussed, and the work of the Congress marked out. For example, a special jury was appointed for awarding the four prizes of five contos [=about \$1,500] each advertised for the best dissertation on the following theses:

- I. The best way of developing the mercantile marine in the Amazon valley.
- II. How to colonize the soil of Amazonia.
- III. How to develop agriculture in the Amazon valley.
- IV. The best way to develop the planting of rubber trees in Amazonia and the best methods to employ in the preparation of the latex.

The jury took formal possession of the essays which had been forwarded to the association, in response to the advertisements published.

It was decided to divide the work of the Congress into three groups, each to be the special care of a commission, and presidents of these commissions were elected: Baron of Solimoes, for that on agriculture; Dr. Huber, for that on rubber; and J. C. Mesquita, for that on commerce.

Following the preparatory sessions came the inaugural or opening session of February 22 and afterwards ordinary sessions during four days, the program ending with final session on Sunday evening, February 27.

The first day's ordinary session was reserved for the presentation of "projects" for the consideration of the Congress. On the second day the jury presented its verdict on the various essays which had been submitted. On the third day the conclusions arrived at by the various commissions were read and discussed as well as the projects put forward at Wednesday's session. On Saturday a series of final conclusions were approved by formal vote, after discussion. These conclusions, fifteen in number, are printed in full in this paper as summarizing the sentiment of the Congress. It will be noted that they all relate to India-rubber.

* * *

At the inaugural session of the Congress, on Tuesday evening, February 22, under the presidency of Governor Bittencourt, there was not only a full attendance of the delegates to the Congress, but there were present many representatives of the government, military officers, judges, the clergy, and leading business men. Addresses were made, of welcome to the delegates, and by way of outlining the purposes of the Congress. Sympathetic responses were made by visiting delegates, and by the close of the session the Congress was already well under way, though nothing of a formal nature had been offered.

The first speaker of the evening was Senhor Scholz. Dr. Jacques Huber, as the representative of the government of the state of Pará, addressed the audience, being followed by Dr. Cândido Mariano, prefect of the department of the Alto Purus, representing the federal territory of the Acre. Incidentally Dr. Mariano mentioned that the first Amazon rubber congress had been held in the Acre district, in August last, at Senna Madureira, where in five years' administration he had succeeded in creating in a "dark forest" a comparatively prosperous city. The Manáos Commercial Association, by the way, was represented officially at the Senna Madureira congress.

Another speaker was Mr. J. A. Mendes, who in addition to having had an intimate relation with the rubber trade, appeared as representative of *A Província*, the important Pará newspaper. In saluting the governor and the delegates of the congress, he joined with his own sentiments those of Mr. Pearson, of THE INDIA RUBBER WORLD.

* * *

It is not proposed here to take up in detail the proceedings of the various daily sessions of the congress. The publication of the "Conclusions" reached is alone a summary of the results.

As an illustration of the ideas advocated during the sessions may be mentioned the motion by Dr. Rey de Castro, recommending the study, by the governments represented at the Congress, of the best means for developing coöperative societies in Amazonia.

Dr. Magalhaes presented a motion recommending means of promoting better hygiene and medical assistance on *seringaç*.

Proposals were made regarding improved means of transportation; in fact the program of the Congress was so broad as to permit the introduction of whatever proposal any delegate might regard as having a practical bearing upon the development of the Amazon country.

The three commissions, for the three sections into which the congress was divided, were organized finally as follows:

Commerce.—J. Claudio Mesquita (chairman); Rafael Benoliel, J. G. Aranjo, José Teixeira de Souza, Luiz Rodriques, W. Stuart Gordon, Emil Zarges, W. Robilliard, J. Mendes Cavalleiro.

Extractive Industry.—Dr. J. Huber (chairman); Cândido Mariano, H. Weaver, Passos Miranda, Lyonel Garnier, Leopoldo de Mattos, A. F. Monteiro, H. C. Pearson, J. A. Mendes, Carvalho Leal.

Agriculture.—Baron of Solimoes (chairman); Angelino Bevilacqua, Eneas Pinheiro, G. Sanders, Laurence Thury, Monteiro de Souza, M. A. Garcia, Theodoro Bottinelly, Ellis Schwabe.

A committee composed of the following was named to edit the official report of the Congress, including the various essays presented: Baron of Solimoes; Dr. Jacques Huber, director of the Pará Museum; Passos de Maranda, representative of the government of Pará; Dr. Eneas C. Pinheiro, of the Pará agricultural Society; Dr. Adriano Jorge, of the Manáos *Correio do Norte*; and Jose Armando Mendes, of *A Província do Pará*.

A committee was formed to prepare gold medals and other awards for the principal exhibitors at the rubber exhibition in connection with the Congress and to the authors of the principal essays presented at the sessions of the Congress. This committee consists of the Baron of Solimoes; Dr. J. Huber; Laurence Thury, of the Amazonas Society of Agriculture; and J. A. de Magalhaes.

* * *

THE essays presented at the Congress will appear in an official report to be made in charge of the committee organized for the purpose. In view of this intended official publication THE INDIA RUBBER WORLD is not presenting any of them at this time.

The jury of award on prizes for essays were unable to bestow the prize offered by the governor of Amazonas for a paper on developing navigation. The two prizes offered by municipalities in the state of Amazonas were awarded. The fourth prize was that of the Commercial Association for a paper on planting rubber. It has not been stated before that essays were sent in signed only by a *nom de plume*. The report in relation to the fourth prize was:

The jury, after careful examination of the theses presented, have found of equal merit, though from different points of view, those signed "Pro Bono" and "Planto Raymundo," and have resolved to divide the prize between them, as they are authorized to do in such cases.

The two papers referred to were those of Carlos Eugenio, of Manáos ("Planto Raymundo") and Henry C. Pearson, of New York ("Pro Bono"). The rubber planting prize was divided equally between these two gentlemen. The jury recommended for honorable mention a paper on rubber planting by Dr. Cerqueiro Pinto, whose name is familiar to readers of THE INDIA RUBBER WORLD.

The final session of the Congress—that of formal adjournment—was held on Sunday evening, February 27, under the presidency of the Vice Governor of the State. This meeting was well attended, and the delegates expressed themselves as pleased with the results attained, and in view of the success of the Congress the opinion prevailed that future sessions would be desirable. When it was proposed by a delegate from Pará that the next congress be held in that city, it was pointed out that the by-laws of the Commercial Association of Manáos provide for biennial

congresses, and that the association had already decided upon a new congress at Manáos in 1912. From what developed at the session, however, it is possible that Pará may have a rubber congress next year, as a sort of intermediate session.

THE FINAL CONCLUSIONS.

As has been mentioned, the results of the discussions during the week were formulated in a series of "conclusions," adopted at the last ordinary session, by a vote of the Congress. These follow:

I.

The Congress looks upon the planting of the rubber tree in Amazonia as an urgent and unavoidable necessity.

II.

For the encouragement of such planting the Congress considers the following measures useful:

- a. The making of model plantations of *Hevea* rubber, by the states, municipalities and agricultural and commercial associations, on their own account, and for commercial purposes.
- b. Free concessions by governments of the lands intended for that cultivation; reduction of export duties on cultivated rubber.
- c. Propaganda through the press and by circulars and pamphlets showing the advantages of planting, and giving practical advice upon the means of making the plantations.
- d. Broad distribution of seeds and plants of the *Hevea Brasiliensis*.

III.

Regarding the *seringais* [rubber estates] already exploited, representing an enormous capital, already productive, and which should not be neglected, the Congress advises the present owners:

- a. To interplant and to replant the existing *estradas* [paths].
- b. To plant in open spaces in the forests or in clearings made in them.

IV.

The Congress recommends to the governments to make an extensive propaganda in Europe, and particularly in the United States of America, on the advantage of investing capital in the rubber industry in the Amazon valley.

V.

In order to encourage the establishment of new plantations of rubber trees, the Congress advises the federal governments, and especially those of Pará, Amazonas, and Matto-Grosso, to make a uniform price for the lands intended for the extractive industry and to limit themselves to the lowest prices at present ruling in those states.

VI.

The Congress advises the governments to protect by special laws the caucho trees (*Castilloa Ulei*) and recommends at the same time the maintenance of forest preserves in which it shall be forbidden to cut these or other trees, in accordance with the ideas expressed by Mr. J. A. Mendes, in his work entitled "A Produção do Caucho."

VII.

The Congress does not advise anything, in the present state of our knowledge of the cultivation of caucho and other inferior kinds of rubber, to private parties, in the face of the unquestionable superiority of the *Hevea*.

VIII.

The Congress entirely agrees with the opinions of Dr. Jacques Huber, expounded in his treatise "Processos de Extracção," on the methods of tapping rubber trees.

IX.

The Congress advises the governments of the states of Pará, Amazonas, and Matto-Grosso to send competent persons to countries where the cultivation of the *Hevea* has been successfully tried, in order to study and verify by sight the methods there employed, either to cultivate or to prepare the latex and the rubber, as also the extensive distribution of any report presented by such agents.

X.

The Congress advises the governments of Pará, Amazonas and Matto-Grosso, and of the contiguous republics, to establish one or more permanent expositions of india-rubber, of an instructive or educational character, managed by competent parties and having annexed physiological and chemical laboratories.

XI.

The Congress, in accord with unquestionable authorities on the subject like Mr. Henry C. Pearson, for one, advises the *seringueiros* [rubber planters] not to abandon the smoking process.

This process may be yet improved upon by means of simple and inexpensive mechanisms, that would lighten the work of the *seringueiro* and at the same time protect his health. In this connection,

the attention of every one interested is called to the machine exhibited by the firm of Danin & Mello, of Pará, which seems to fulfill the necessary requisites.

For use on planted rubber trees, we call the attention of those interested to the machine invented by Commendador Simão da Costa:

XII.

Meanwhile the Congress can but applaud the efforts made to discover new processes of coagulation, and it recommends that the governments and mercantile associations offer prizes for the best processes, especially for the coagulation of the latex of rubber. It must be seen to that all attempts in this sense should aim at producing a better product from caucho than is obtained by fumigation.

XIII.

The Congress absolutely condemns all and every process of coagulation by acids or by alum, because unfortunately such processes depreciate the value of the latex of the *Hevea*, to the serious injury of the manufacturer and of the state exchequer.

XIV.

The Congress earnestly urges the governments and associations to enact repressive regulations against fraud in the preparation of rubber, including the mixture of the latex of different species of gummiferous trees, and the wrongful designation of type or origin.

XV.

The Congress calls attention of the governments and of merchants to the urgent necessity of organizing a series of well-defined grades of the different qualities of india-rubber, taking into consideration for this classification, not alone the physical qualities, but also the origin of the rubber. The standards of those grades should be kept in the permanent expositions mentioned in Article X.

OUR EDITOR'S LECTURES.

As part of the program of the Congress, the Editor of THE INDIA RUBBER WORLD gave two lectures in the Amazonas Theater, on the evenings of February 23 and 24, both illustrated with lantern slides. The journal *Amazonas* of February 24 reported as follows:

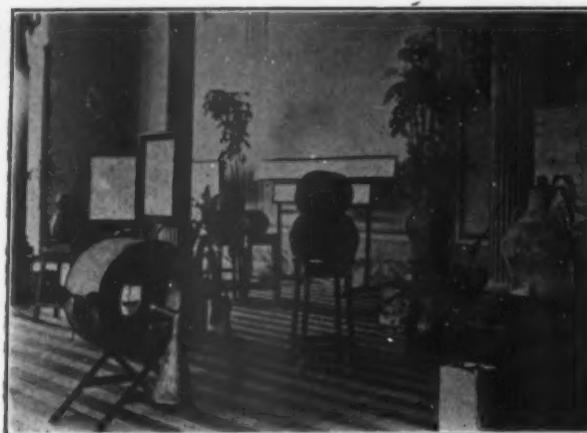
"At 9 o'clock last night, in the Amazonas Theater, occurred the lecture of our distinguished colleague, Mr. H. C. Pearson. As we had previously announced, the conference turned upon 'The Planting of *Hevea* in the Orient,' and 94 views were exhibited of landscapes in Ceylon and Malaya of *Hevea* plantations, scenes of Oriental life, and so on. In his first speech Mr. Pearson expressed his regret at not knowing the Portuguese language, as he would have been delighted to speak directly to the people of Manáos, by whom he had been so well received. The lecture was well attended and the explanations given with the illustrations were followed with great attention. Our distinguished colleague, Mr. J. A. Mendes, of *A Província do Pará*, proved an excellent interpreter.

"The second lecture of our esteemed colleague, Mr. H. C. Pearson, takes place today at the Amazonas Theater, at 9 p. m. The lecture will relate to 'The Manufacture of Rubber Goods in the United States.' For this lecture the Commercial Association will distribute only the 'frizas' and part of the boxes. The lecture will be illustrated. The remainder of the tickets will be given by the Association to the public."

NOTES FROM CORRESPONDENTS.

An interesting incident connected with the Congress was the planting of rubber trees in one of the beautiful parks of Manáos—in the Matriz Garden, to the right of and facing the Cathedral. The planting was accompanied by appropriate ceremonies, the Governor planting the first, President Scholz the second, the Editor of THE INDIA RUBBER WORLD the third, Dr. Huber of the Pará museum the fourth, and so on until twenty-six were set out. These were seedlings, one meter tall, from seeds brought by Governor Bittencourt from Ayapuá, on the Purús.

The Editor of THE INDIA RUBBER WORLD, on arriving at Manáos, was met by a committee from the Commercial Association, with the announcement that he was to be the guest of that body during his stay, and, the choice being left to him of a stopping place, he chose the home of Mr. F. H. Sanford, manager of A. H. Alden & Co., Limited, much to the envy of the



Danin's patented Fumero. On the right is an earthen pot for smoking rubber.



Rio Negro Rubber—Ball of 700 kilograms; probably from *Hevea Guayensis*.

other delegates. The Association placed a motor car at Mr. Pearson's disposal, and arranged launch trips to nearby rubber estates, visits to the new experiment station at Bosque, and a formal call from the Governor, who is much interested in rubber planting.

A luncheon given to the Editor of THE INDIA RUBBER WORLD by President Scholz at the Restaurante Français was attended by several leading delegates of the Congress, the Mayor of Manáos, and members of the rubber trade.

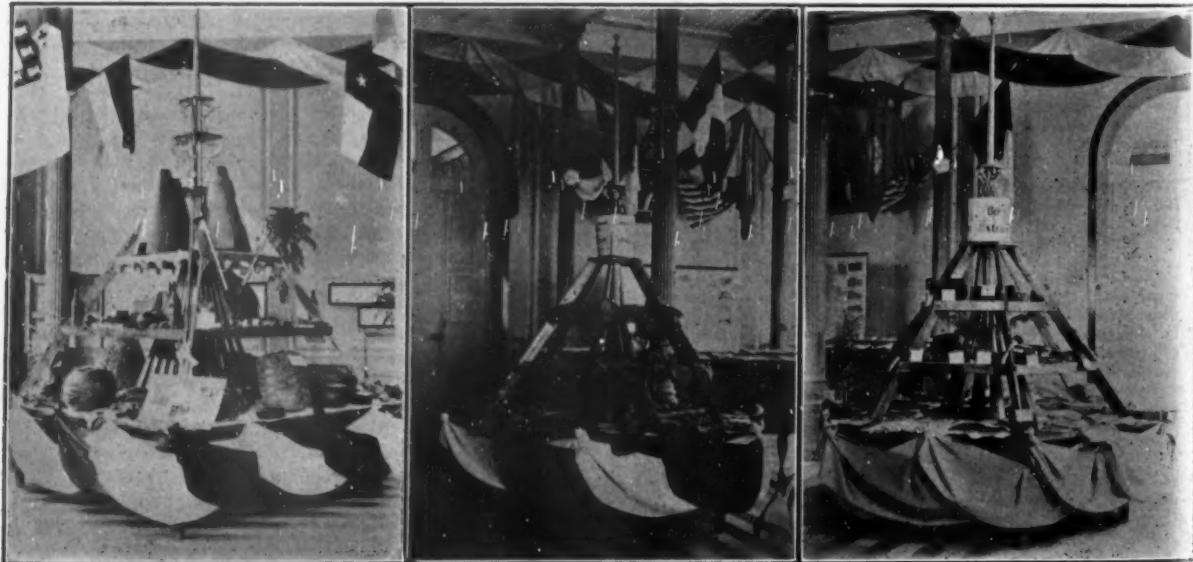
On the morning of his departure down the Amazon a number of delegates, business men and journalists gathered on the pier to wish him *bon voyage* and to impart to him the vote of thanks passed by the Congress for his services in helping to make it a success.

Mr. Pearson, on leaving Manáos, presented to Dr. Huber, for the Museu Goeldi, two complete sets of lantern slides, one showing rubber planting in the Far East, and the other exteriors of the great American rubber factories, together with typical views showing processes of rubber manufacture in the United States.

A GOOD RUBBER EXHIBITION.

THE Exposição de Borracha (rubber exhibition) held in connection with the Congress, in the great hall on the ground floor of the State library, was opened formally on the morning of February 23, in the presence of Governor Bittencourt, music being supplied by a military band. The hall, in itself attractive, was full of tastefully arranged samples of different kinds of rubber, and objects connected with rubber production. There was embraced a collection of books and journals devoted to india-rubber; the walls were decorated with maps of Amazonian rivers and rubber producing districts in Ceylon and Malaya; and there were photographs of *seringae* and rubber plantations illustrating, among other things, processes of preparing rubber.

In the collections of rubber in the center of the hall were samples of rubber from the various rivers of the Amazon, from Ceylon, Malay peninsula, Java, Borneo, Mozambique, the Congo, Sumatra, Soudan, Gambia, Massai, and Angola. Six qualities of india-rubber were exhibited by the chamber of commerce of Loretto, in Peru, including samples from the rivers Napo, Alto



[From left to right.] I. Curios and Varied Exhibits. On the upper shelf are sheet iron smoking cones now used in the place of earthen smoking cones. Used in smoking Pará rubber. II. Montiero Da Costa's rubber prepared like Ceylon (Madeira River). III. Ceylon and Other Foreign Rubbers. Photos by G. Huebner & Amaral.

VIEWS FROM THE RUBBER EXHIBITION AT MANAOS.

Marañon, Ucayali, and Putumayo, besides a new rubber—"white caucho"—from Moniti river.

One stand was occupied by a collection of beautiful specimens of rubber prepared by different processes—coagulation by means of acetic acid, lemon juice, and so on, plain and smoked—in the *seringal* "Santa Maria," owned by Colonel Raymundo Monteiro, on the Marmellos river, an affluent of the Madeira. There were specimens on this stand fully equal in appearance to the best Ceylon rubber, thus demonstrating the possibility of adopting on the Amazon the methods successfully practiced in the Orient.

Speaking of the Orient, the collection of implements employed in the preparation of rubber in that part of the world embraced the *faca* (sheath knife) invented by Dr. J. Huber, director of the Goeldi Museum at Pará, and regarded by many as the best tapping tool for *Hevea* yet produced.

As usual in Amazon exhibits the most showy part of the exhibit were the great "pelles" of rubber from different *seringaes*, and piles of "sernalby," caucho, and other varieties. One of the best exhibits in this line was that of Rio Negro rubber, some 16 varieties, by Messrs. J. G. Aranjo & Co. The Peruvian Amazon Co. also had a stand profusely adorned with photographs of Indian tribes and so on.

A word of mention should also be made of the exhibits of rubber shoes, rubber covered bags, and the like, made by upriver *seringueiros*, and representing the most primitive form of the rubber industry. These articles are vulcanized by the very simple process of mixing sulphur and gunpowder with the latex of either *Hevea* or caucho, and then exposing to the sun's rays.

A conspicuous exhibit was the machine for smoking rubber invented by Mr. Manoel Vianna Coutinho, and the patent on which belongs to the firm of Danin & Mello, of Para. This has been illustrated in detail in THE INDIA RUBBER WORLD [September 1, 1904—page 413].

The exhibitors, as a rule, were not named on the labels on the rubber displays, except in the case of that from Peru, which was in the name of the chamber of commerce at Iquitos. The descriptions of these exhibits, printed in Portuguese, cannot in every case be identified with designations of rubber grades common in the world's markets. Thus the designation of the exhibits from Tonkin (French Indo China)—"Soudan niggers" and "Borracha vermelha Londres"—would require some explanation in either England or the United States. The official description of the foreign rubber exhibits follows:

Department of Loreto (Peru):

Rabos de Putumayo.
Caucho branco (Rio Maniti).
Caucho branco (Rio Napo).
Borracha fina (Alto Maranon).
Borracha fina (Rio Ucayale).

Ceylon:

Folhas unidas de borracha.
Tiras de curly.
Crepe claro.
Crepe claro transparente.
Laminas de borracha marron claro.
Crepe claro.
Crepe medium.
Crepe escuro.

Malay Peninsula:

Folhas nao desfumadas de Vallambrosa.
Crepe aledium.
Folhas direitas de singer chob.
Crepe rambong de Sumatra.
Folhas desfumadas de Vallambrosa.

THE RUBBER MERCHANTS' DINNER.

A very high compliment to the Editor of THE INDIA RUBBER WORLD was the banquet tendered by the merchants of Pará (Belem is the official name of the city), on his return from the Congress at Manáos. It was given at the Hotel da Paz, on the evening of March 2, in a room decorated with the national colors of Brazil and the United States. Placed about the room

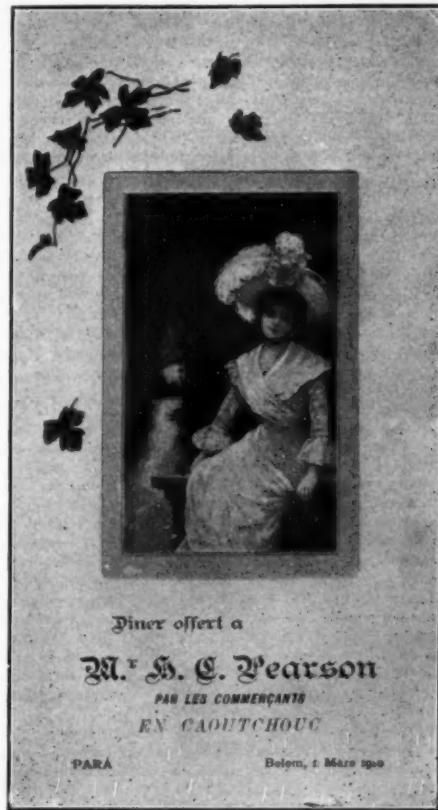
were tropical plants, including *Hevea Brasiliensis*. The tables bore floral decorations.

Senhor José Simão da Costa, the director in Brazil of the Alves Braga Rubber Estates and Trading Co., Limited, acted as toastmaster. His speech is reproduced here, together with the response by Mr. Pearson. Other speakers were the American and British consuls, and the representative of *A Província do Pará*.

SENHOR DA COSTA'S ADDRESS.

MR. PEARSON—GENTLEMEN: The rubber merchants of the city thought it their duty to show you their appreciation for all you have done to further the interests of the rubber industry, to offer you the banquet at which we are now entertaining you.

We trust that, from all you have seen and heard during your stay in the Amazon region, you will be able to form an exact opinion as to what the future of wild rubber is likely to be, when it is known that this industry is conducted on purely systematic commercial lines, and not in a haphazard way as many people believe.



We are all alive to the fact that those responsible for the rising rubber industry in the east seem determined to make it a commercial success, and we are indebted to them for the stimulus which their competition has brought to our shores.

History repeats itself every day that goes by, and what has happened before, in many other industries, will happen in rubber. The advent of electricity caused many well informed men to prophesy the absolute supplanting of gas as a street illuminant, but gas is as highly appreciated today as it ever was, and gas companies were never better off, financially speaking.

The discovery of Marconi caused many people to believe that wireless telegraphy would completely do away with all submarine cables, but these are being now built with every assurance of remaining a permanent and sound investment in the future.

As with gas and electricity, so will it be with wireless telegraphy and submarine cables. They will have distinct uses to fill, and will go on progressing for the benefit of humanity, side by side, without injury, and rather helping each other to meet the needs of modern civilization.

So will it be in the rubber industry. There is room for all the rubber that may be produced in the East, without injury to all the wild rubber of

the Amazon, for each of these products have absolutely distinct applications.

Nature has endowed the wild product with physical properties that cultivated rubber does not possess, so say the highest scientific authorities on the subject, and so leading manufacturers affirm. This being so we have every reason to look forward to the future of wild rubber with every confidence, and we have no doubt that the government of Brazil will eventually face the problem of cultivating rubber and solve it satisfactorily.

If the historical precedents of nations can count for anything, in estimating their future capabilities, then we are justified in hoping that the great problem of intensive agriculture will be masterfully and thoroughly solved in Brazil.

The history of the evolution of the Brazilian nation differs in many respects from that of most of her contemporaries. The severance of the then colony of Brazil from Portugal, and the founding of the Brazilian nation was done amidst the most friendly accord on both sides of the Atlantic.

The freedom from slavery was carried out by a stroke of the imperial pen, under showers of palms and flowers. The fall of the empire and the proclamation of the republic was done without any bloodshed. The coffee valorization scheme is an accomplished fact. We anticipate the payment of the first installment of our funding loan, whilst government measures were effective in giving the country a stable rate of exchange for the past few years.

When a nation can show the world such achievements, it may be depended upon to cope with any such problems as rubber planting.

Mr. Pearson, in the name of the committee appointed to offer you this banquet, and for myself, I beg to propose your health, and to wish you not only every prosperity you deserve, but also that the impressions you take from our shores will be pleasant and lasting. Your health!

MR. PEARSON'S RESPONSE.

MR. CHAIRMAN AND GENTLEMEN: Visiting Pará for the second time is very much like a pleasant home coming. Indeed, as I contemplate those gathered at this board, the British consul at one end, the Yankee consul at the other, and between the many old and new friends here gathered, I find myself regretting the necessary brevity of this stay, and am beginning to plan a third visit and that in the near future.

Pará is certainly a beautiful city; not only that, it is an exceedingly comfortable one. I have suffered more from the heat of July in New York city than here. I have seen more mosquitoes in many places in the States than here, and in many American cities there are more flies, and infinitely more dirt. In appearance this is not an American city, except perhaps in two particulars. Your rapidly running trolley cars remind me of home. Then, too, the black cloud that so often hangs over your city is suggestive of Pittsburg, except that your cloud discharges rain, cleaning the city daily, while ours, being a smoke cloud, has the opposite effect. Pará is not like New York, Chicago, or any other North American city. It is like a miniature Paris set in the midst of a tropical Eden.

But it is not alone of the beauties of your city I would speak. Placed at the entrance of the greatest waterway in the world, a river that no engineering skill could dam or bridge, a river which with its affluents drains thousands of square miles of the most fertile portion of the earth, it has a vast possible commercial significance and importance. This is particularly true today, for this country stands upon the threshold of an enormous industrial development. Whether or not those present live up to their opportunity will make little difference. The world demands rubber and scores of other staples that this country can produce better than any other, and what the world wants it gets.

The United States of America and the United States of Brazil are twin republics joined by a broad elastic band that cannot be severed. The more you produce the greater grow our industries; the more we manufacture the richer you become. I am looking forward to the day when from Matto Grosso to the Guianas, from Santarem to Salinas, the state of Pará will be one great plantation, much of it in rubber. I give you as a toast, "The Crude Rubber Industry of Pará, and Its Representatives Here and Elsewhere."

COMMITTEE APPOINTED TO OFFER MR. PEARSON A BANQUET.

Antonio José de Pinho, President.
Gustavo Gruner, Vice President.
Antonio Rodrigues Alves, Treasurer.
Joaquim G. Gonçalves Vianna.
Luiz Danin Lobo.
Arthur Pires Teixeira.
José Simão da Costa, Secretary.

PROMOTERS OF THE FEAST.

Gruner & Co.
Alves Braga Rub. Estates and Trad. Co.
Adelbert H. Alden, Ltd.
Mello & Co.
Gordon & Co.
Leite & Co., Inc.
Velhote Silva & Co.
Braga Sobrinho
Souza Guimarães & Co.
Barbosa & Tocantins

R. Suarez & Co.	Freire Castro & Co.
E. Pinto Alves & Co.	A. F. de Souza & Co.
Pires Teixeira & Co.	Bensimon & Coriat
Booth & Co.	Souza Filho & Co.
B. A. Antunes & Co.	Ismael Hall & Co.
Mello Frotas & Co.	Silva Cunha & Co.
Thome de Vilhena & Co.	Rocha Silva & Co.
Isaac J. Roffé & Co.	G. A. Miranda Filho.

OTHER PERSONS INVITED AND WHO ATTENDED.

Dr. Lucio de Freitas Amaral, director Banco do Pará.
Dr. Fabiana Alves, director Banco do Brazil.
Mr. George H. Pickerell, American consul.
Mr. Ambrose Pogson, British consul.
Major Raymundo Moraes, *A Província do Pará*.
Miguel P. Shelley, *O Journal*.

DINER.	
VINS:	
Madere	Potage creme de Vollaille
	Hors d'Oeuvres varies
Piesporter	Merlan a la Fecampoise
	Filet a la Rossini
Chateaux Margaux	Dindonneau a la Bresiliennes
Pommard	Arperges sauce Mousseline
	Glace Creme Panache
Champagne	Puding Diplomate
	Fruits Divers, Confiture
	Cafe Liqueurs

It will be evident from this summary of the recent proceedings on the Amazon that much of interest to the rubber trade as a whole was said, and it is certain that the leaders in Brazilian trade will follow their congress with definite action in the matter of improving conditions, and bringing the production and shipment of rubber to a basis conforming more to modern conditions. Enterprise is not lacking in the Amazon valley; vast natural wealth exists there, and many individual fortunes have been made by the trade methods which in some other parts of the world have been regarded as unprogressive. One reason why so little change has been made in that region was that until recently Amazon rubber was without competition.



THE AVENIDA REPUBLICA, PARA.

[At the right is shown the Hotel da Paz, at which was given the dinner to Mr. Pearson.]

Mincing Lane and the Rubber Share Market.*

WHEN the boom in rubber shares began Mincing Lane saw its opportunity and took it. Produce brokers were not wholly inexperienced in the business of buying and selling shares for clients. For many years some of the principal tea houses have dealt in shares of tea companies. Their operations were never very numerous, but they have served as an example in the evolution of the rubber market. As soon as rubber flotations began some of the rubber houses found that their connection with producers, consumers and the rubber world in general made it convenient for them to act as intermediaries between buyers and sellers, not only of the produce but of shares in the producing companies also. As the boom has grown their business in shares has grown with it. The brokers most prominently concerned now have regular share departments in their offices, which have become of as much importance to them as their business in rubber itself.

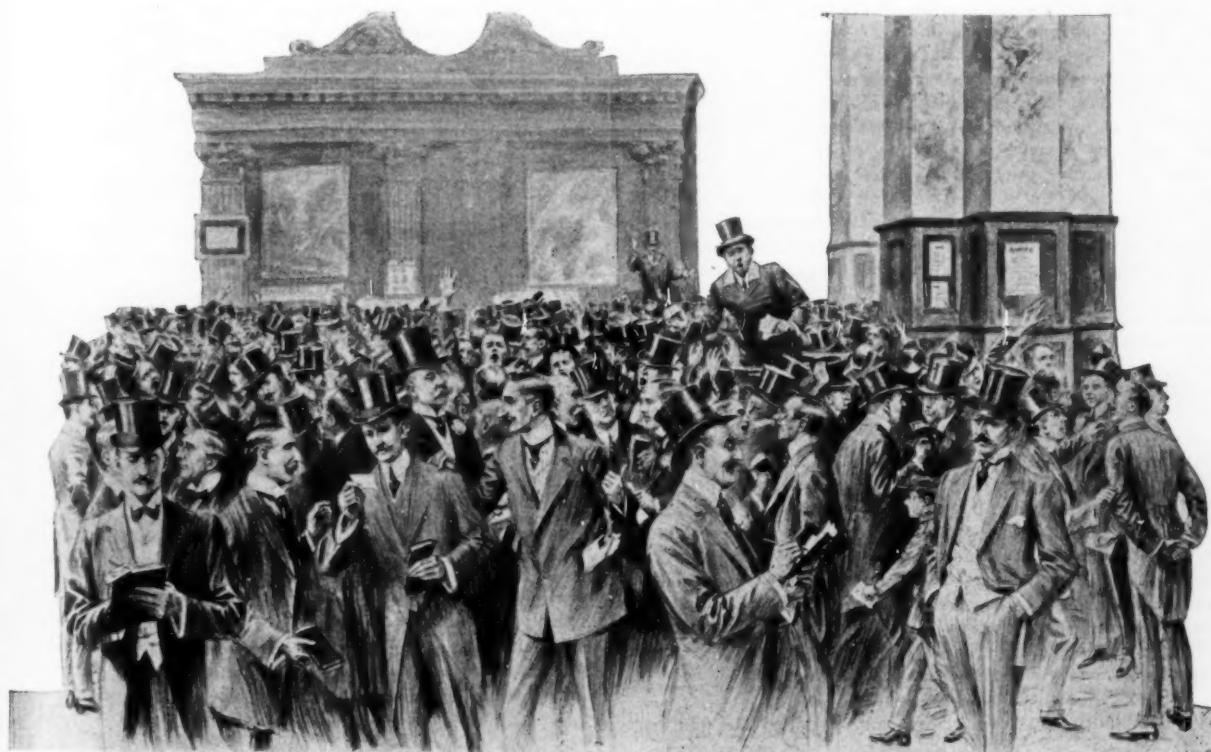
When a number of dealers in one article gather together to buy and sell from each other a market is established, and some organization soon grows up to regulate the course of dealing upon it. The rubber share brokers of Mincing Lane have constructed such an organization to serve their needs, or rather, an organization has grown up itself out of their customary business methods. A little local stock exchange has come into existence. Its nature and conditions are of some general interest, because they show how a stock market is conducted which has no historical or legal ties, and is free to carry on business as it pleases.

The local habitation of the Mincing Lane market is in a corner of the Commercial Sale Rooms. It meets twice a day, morn-

*From *London Economist*, March 5, 1910.

ing and afternoon, for half an hour or so, and it is frequented by those brokers who have a rubber share department as a regular branch of their business. An association has been formed, the Mincing Lane Tea and Rubber Share Brokers' Association, which has some seven or eight members, but time has not yet been found to give it any rules. The procedure of the market is adapted from that of a "call" in a produce market. Each broker on the market takes his turn in reading over the list of shares and yesterday's prices. If anyone present has dealt since the last call at a price different from that read he corrects the price accordingly. Dealings in each share take place as its name is read out, and if they result in any rise or fall the new price is recorded. When the call is finished there is some miscellaneous dealing, and the gathering is over till the next time. The greater part of the business of the market is, of course, transacted not at the "calls," but from office to office during the day. The "call" serves only to provide an opportunity of balancing transactions, of executing commissions for which time or opportunity has failed, and of making up an official price list as the basis of future transactions.

The chief difference between such methods of business and those of the Stock Exchange is that Mincing Lane has no jobbers. Dealing takes place straight from broker to broker. There is no one whose business it is to make a price either way, and to take anything he is given. When a broker opens negotiations at the call he begins "Anything in so-and-so?" but if there is no immediate response he proceeds at once to declare whether he is a buyer or seller and at what price. The whole working of the market depends, therefore, on the knowledge of the broker as



IN THE RUBBER MARKET, AT THE LONDON STOCK EXCHANGE, DURING THE GREAT RUSH FOR SHARES.
[Reduced from a two-page sketch by S. Begg in *The Illustrated London News* of March 5.]

to where he can find a buyer or a seller in respect of any commission which he has to execute. It would seem that under these conditions, if the market is to be maintained, brokers must be prepared at times to step into the shoes of a jobber, and if there are more buyers than sellers, or sellers than buyers, to carry shares themselves. No doubt a certain amount of business of this sort is done by brokers. But those best acquainted with the market say that their business has been for the most part direct commission business. Although it has no jobbers of its own to undertake any business which may be offered, Mincing Lane has close relations with the Stock Exchange, and can avail itself of the services of the regular jobbers in case of need. There is no organized co-operation between the two markets, but connections have been established between the principal Mincing Lane houses and broking firms on the Stock Exchange. If a Mincing Lane broker cannot find a buyer or seller in his own market he can execute his commission with jobbers on the Stock Exchange through the inside broker, with whom he is connected, as intermediary. Conversely the inside broker may find it convenient to execute a commission on the Mincing Lane market through his friends there, nor is there any rule of the Stock Exchange to prevent him from doing so, provided that the firm with which he is connected does not advertise.

Thus each market assists and supplements the other, nor can either be said at present to be predominant. But the general result of the relations between the two centers must be that the residual business of Mincing Lane tends to pass over, and its orders to be balanced through jobbers on the Stock Exchange. The connection between the two may in some cases have been closer still. It is not impossible that the method of working through a salaried broker may have enabled some regular jobbers to act practically as jobbers on the Mincing Lane market, making net prices to the Mincing Lane brokers. But that method of conducting business, if it has ever existed, will be put an end to by the new Stock Exchange rule against working for salary.

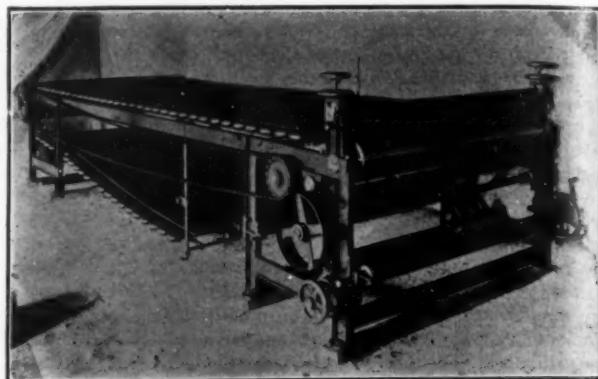
It would seem that one or other of the two markets must in the long run fall into a subordinate position. At the outset of the movement the Stock Exchange was slow in providing facilities for the new business. Mincing Lane was allowed to get a start, and it has taken good advantage of it, developing a large connection on the basis of its established relations with all sorts and conditions of men interested in rubber. At the present moment it probably gets as much if not more business than the Stock Exchange. But it is to the Stock Exchange that the outside public tends to give its custom, and the spread of the boom among the world at large has brought business increasingly to Throgmorton street. Another important influence which will tend to bring business back to the Stock Exchange is the greater financial facilities which it possesses in comparison with its rival. Dealings in rubber shares are at present for the most part ready-money transactions for a single account. But as the market steadies, speculators and others will increasingly require to carry over, and Mincing Lane has neither the credit facilities nor the organization necessary to enable it to transact this class of business. Already its dependence on the Stock Exchange and its jobbing facilities is probably greater than appears upon the surface; greater indeed than is realized by the market itself.

We may be inclined to guess that in the long run the center of gravity will become fixed in the Stock Exchange, and that the Mincing Lane share brokers will remain interested in the business as feeders of the regular market only. Just so did the South African boom begin in Hatton Garden, but the market grew and the public came in, business was gradually and automatically drained away to the Stock Exchange.

JAVA.—Exports of crude rubber from Java for the first ten months of 1909 amounted to 162,913 kilograms, compared with 28,108 kilograms for the same months of 1908—the increase doubtless being due to the larger production of plantations.

A NEW RUBBER SPREADER.

THIS illustration shows one of the latest designs in spreading machines. It is intended for putting on a thin coating of rubber. The cloth to be coated is wound on a wooden roll carried by a shaft provided with an adjustable friction, for holding back the cloth to give a proper tension. The cloth passes up and over a rubber covered roll, above which is located the spreading knife, so mounted that it can be raised or lowered to fit different thicknesses of cloth. After being coated, the cloth passes over steam coils and around a drum at the extreme end of the machine and is wound on a wooden roll placed



RUBBER SPREADING MACHINE R-6B

underneath. The drive for the wind-up roll is arranged with a friction device which can be adjusted by a hand wheel while the machine is running. A countershaft is furnished with the machine, which has pulleys for both straight and crossed belts so that the machine can be reversed and the cloth run back as occasion requires.

The machine shown is for handling cloth of any width up to 60 inches. It is made by the New England Butt Co. (Providence, Rhode Island).

"AMERICAN SELF CONSCIOUSNESS."

[FROM THE "GUMMI-ZEITUNG," BERLIN.]

A N article in THE INDIA RUBBER WORLD entitled "The Country of Today" [February 1, 1910—page 159], proves that Americans are thoroughly conscious of the importance of their country as a producer of rubber goods. A passage from this article reads as follows:

The growth of the rubber industry in the United States alone guarantees the future of rubber culture in whatever part of the world it is pursued under proper conditions. It assures the continued profits of rubber production on the Amazon, which long will be a necessity, even in the face of the success of plantations of rubber elsewhere. The stability of crude rubber prices and of the prices of rubber goods is being brought about by such American corporations as one which recently was able to borrow \$20,000,000 for its operations, through the sale of "notes" to the best financial institutions in New York. The beneficial effects [Questioned by the *Gummi-Zeitung*.] of such conditions will be felt ultimately by the smallest rubber factory in America, and by the large and small concerns in every other country in which rubber goods are made.

Although the above statements show a rather high degree of self consciousness, those who have had occasion to observe the development of the American rubber industry during the past 10 or 15 years, will understand this display of assurance.

The Aero Club, formed in England in 1901, is to be known in future as the Royal Aero Club of the United Kingdom, the king having granted the necessary permission.

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED FEBRUARY 1, 1910.

No. 947,826. Spring tire. [The springs are provided with rubber caps.] R. J. Lackner, New York city.
 947,834. Tire armor. [A connected series of metal plates.] C. H. Maddox, Canton, Mo.
 947,850. Galoch, gum boot, and other rubber footwear. [Comprises a leather toe piece.] D. Smith and F. W. Smith, Christchurch, New Zealand.
 948,064. Process of making tire shoes. F. A. Seiberling and W. C. State, Akron, Ohio; Smith assignor to Seiberling.
 948,128. Supplemental rim for [pneumatic tired] wheels. J. L. Hecht, assignor to G. W. French, N. French, and J. L. Hecht, a firm, all of Davenport, Iowa.
 948,152. Pneumatic tire for vehicles. [With armored tread.] C. E. Titus, Springfield, Mass.
 948,267. Wheel rim or felly for pneumatic or solid tires. J. B. Bradshaw, Manchester, England.

ISSUED FEBRUARY 8, 1910.

948,382. Tire for wheels of vehicles. [Tread consists of a plurality of hollow studs of elastic material.] J. Cairns, Willenhall, South Staffs, England.
 948,401. Machine for cutting rubber rings. W. P. McGouch, Somerville, Mass.
 948,701. Pneumatic tire. [Comprising a plurality of segments.] J. G. A. Kitchen, Lancaster, and I. H. Storey, Ambleside, England.
 948,702. Overshoe. J. Smith, Ivoryton, Conn.
 948,802. Tire pump for motor vehicles. M. L. Bastian, assignor to Olney Automobile Co., Ltd., all of Philadelphia.
 948,845. Manufacture of filling or stuffing material. [The material referred to on other pages of this issue as "Pneumatic."] R. J. Caldwell, New Southgate, and F. Pfeiffer, London, England.
 948,903. Pneumatic tire. W. Odell, Tarrytown, N. Y.

ISSUED FEBRUARY 15, 1910.

949,001. Resilient tire. E. B. Mérigoux, Paris, France.
 949,060. Vehicle tire. [With studded tread.] W. J. Courtney, New York city.
 949,154. Vulcanizer for repairing rubber tires, etc. V. H. Meyer, Cleveland, Ohio.
 949,375. Vehicle tire. W. A. Koeneman, Cudahy, Wis.
 949,472. Pneumatic tire. W. M. Harley, assignor to J. Weerts, both of St. Louis.
 949,561. Tire tool. S. Alley, Westminster, London, England.
 949,572. Tire protector. F. P. Hayes, Brooklyn, assignor to Auto Armor Co., New York City.
 949,636. Vehicle wheel. J. C. Rutherford, assignor to Iron Tire Pneumatic Co., all of New York city.

Trade Mark.

45,695. Kokomo Rubber Co., Kokomo, Ind. The word *Gridiron*. For rubber tires.

ISSUED FEBRUARY 22, 1910.

949,754. Pneumatic heel for boots and shoes. J. S. Busky, New York city.
 949,888. Rubber tire for vehicles. [Pneumatic.] R. J. Evans, Franklin, Pa.
 949,903. Spring tire. L. F. Kenney, Avondale, Ala., assignor of one-third to O. E. Heath.
 949,947. Pneumatic tire and the like. [The invention relates to air tubes.] W. J. Thorold, London, England.
 950,172. Tire repair device. J. C. Herman, Chicago.
 950,416. Wheel tire. A. G. Thomson, assignor of one-half to A. Sutton, both of San Francisco.
 950,417. Tire armor. *Same*.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the application, which in the case of these listed below was in 1908.

*Denotes Patents for American Inventions.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, FEBRUARY 2, 1910.]
 21,250 (1908). Wheel with two tire carrying rims side by side. H. Brown, Morley, Leeds.
 21,287 (1908). Two part detachable rim for tires. W. Höschken, Vluyn, Germany.
 21,363 (1908). Inflatable rudder for aerial machines. W. E. Evans, London. (Motorluftschiff-Studien, Berlin.)
 21,441 (1908). Separation of caoutchouc from latex by electrical means. T. Cockerill, Colombo, Ceylon.
 21,541 (1908). Wheel with two or more rims side by side for rubber tires. T. M. Davies, Llanclelly.
 21,545 (1909). Solid rubber tire with rubber rings interposed between the same and the rim flanges, the gripping surfaces of the tire and flanges being serrated. F. Wiechard, Hanover, Germany.

21,663 (1908). Pneumatic tire or tire cover formed over vulcanized india-rubber without fabric insertion. A. T. Collier, St. Albans.

21,673 (1908). Pneumatic tire with protective band of leather sections held together with metal plates. J. C. S. Hedderick, Liverpool.

21,710 (1908). Pneumatic tire, the interior of which consists of a series of balls which may be inflated separately or simultaneously through a connecting tube. T. D. Harries, and W. A. Hollier, Aberystwith.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, FEBRUARY 9, 1910.]
 21,819 (1908). Non skid device for twin tires. J. R. Hamilton and A. E. Broadberry, Cheshunt, Hertfordshire.

22,040 (1908). Puncture proof band for tires. W. Hill, Birmingham, and J. P. Wilks, Uttoxeter.

22,047 (1908). Driving belt of fabric treated with a solution of rubber, balata, or the like. E. Poole, Kearsley, Lancashire.

22,051 (1908). Attachment of non skid covers to pneumatic tires. C. S. and J. A. Challiner, Manchester.

22,067 (1908). Spring wheel with solid rubber tire. A. T. Reid and A. Rieke, Glasgow.

22,100 (1908). Device for inflating motor tires while in motion. F. A. Deneuert, Kyabram, Victoria, Australia.

22,187 (1908). Creeping non skid thread for pneumatic tires. B. H. Sills and F. E. Page, Toronto, Canada.

*22,206 (1908). Spring wheel with elastic cushions within springy steel bands. L. Flum, Chicago.

22,266 (1908). Elastic tire composed of an ordinary cover filled with composition of gutta-percha, feathers, etc. E. Kempshall, London.

22,267 (1908). Golf ball having a core of gutta-percha or other plastic material, mixed with the vanes of feathers, etc. E. Kempshall, London.

22,289 (1908). Rubber heel in which is embedded a frame of "metal or other material harder and cheaper than rubber," without affecting the resilience of the article. C. Forrest, Romiley, Cheshire.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, FEBRUARY 16, 1910.]

22,564 (1908). Elastic tire formed of elements—which may be stamped from old pneumatic covers—placed against each other around the rim and held in position by wires threaded to the elements. L. Gauch-erand, Lyons, France.

22,579 (1908). Wheel comprising two coney disks and a pneumatic tire. J. Knight, Liverpool.

22,606 (1908). Apparatus for detecting tire punctures. A. L. Hathaway, London.

22,638 (1908). Self inflating tire. J. H. Everett, Thornton Heath, and two others.

22,649 (1908). Two part detachable rim for united tires. R. H. Lane, London.

22,668 (1908). Wheel with two rims or tires side by side. W. A. Harper, Glasgow.

22,698 (1908). Pneumatic tire with detachable tread band of rubber having inextensible metal wires at the edges. W. I. G. Lewis, Tamworth, and T. West, Glascote, Warwickshire.

22,704 (1908). Sectional detachable rims for elastic tires. J. W. Hall and C. Baynes, London.

22,739 (1908). Tire consisting of an inflatable metal casing open at the periphery and closed in by an india-rubber cover held by detachable metal rim. A. Duni, Cava dei Tirreni, Italy.

22,799 (1908). Device for indicating the deflation of a pneumatic tire. W. T. Watson, Didsbury, Lancashire.

22,893 (1908). Apparatus provided with a rasping cylinder for powdering waste rubber. T. Gare, New Brighton, Cheshire.

22,897 (1908). Vulcanizing flask for dentists' use. R. Sutcliffe, Stretford, Lancashire.

23,033 (1908). Device for preventing side slip in motor cars. H. A. Palmer, Kettering, Northamptonshire.

23,059 (1908). Rim for pneumatic tire. C. A. Bradshaw, Manchester, and three others.

23,077 (1908). Lever for detaching pneumatic tires. R. White, Hinckley.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, FEBRUARY 23, 1910.]

23,105 (1908). Disk wheel with solid rubber tire. R. T. Smith, Warrington.

23,107 (1908). Pressure gage for tire inflators, and the like. H. Turner, Sheffield.

*23,177 (1908). Case for spare tires. P. Evans, Philadelphia, Pennsylvania.

23,246 (1908). Tire composed of rubber tread blocks, with means for their attachment to the rim. J. R. Hamilton and A. E. Broadberry, Cheshunt, Hertfordshire.

23,264 (1908). Elastic composition for filling tires or cushions, or for use as a substitute for rubber. Made by dissolving colloids in glycerine and adding gallic acid, tannin, Metamethylenetetramine, and "lysoform." E. C. R. Marks, London. (A. Schaar, Hamburg, Germany.)

23,567 (1908). Detachable rim for pneumatic tires. E. Owen, Llandudno, Wales.

23,627 (1908). Rubber reclaiming process. Commuted waste rubber, after treatment with alkali to remove free sulphur, is subjected to a temperature of 212° to 240° Fahr., and to high pressure, such as 1,000 pounds per square inch. R. Hutchinson, Glasgow, and three others.

23,630 (1908). A tire in which a rubber cover encloses a core grooved to form helical air spaces. T. W. and R. R. Moore, Manchester.

23,685 (1908). Pneumatic tire in which a flat spring metal band is enclosed between the air tube and cover. H. Pfeiffer, London.

23,748 (1908). Pneumatic tire comprising an air tube between which and the tread is a smaller tube filled with fine sand. G. A. Bennett, Goodmayes, Essex, and J. A. Smith, London.

23,751 (1908). Pneumatic tire comprising two air tubes in one cover. D. Marshall, Cheltenham.

THE FRENCH REPUBLIC.

PATENTS ISSUED (with Dates of Application).

404,562 (July 1, 1909). J. Saint-Pé. Method of applying a grooved rubber rim having a heel in a single piece, to any kind of a shoe, by hand or machine sewing.

404,679 (June 9). Wolfarth & Zimmermann. Compressed air cushion; shock absorber for cycles, baby carriages and other vehicles.

405,518 (July 28). A. R. Bangs. Tire capable of being automatically inflated and applicable to automobiles and other vehicles.

405,739 (Aug. 4). C. A. Parsons. Process and apparatus for the manufacture of electrical conductors.

405,678 (Aug. 3). Van Oosterzei. Process for the regeneration of rubber.

405,711 (July 23). Puntschart and Alscheck. Process for the manufacture of an elastic material.

405,843 (Nov. 24, 1908). Auberge. Heel for shoes for elastic tires.

401,814 (Aug. 9, 1909). T. Sloper. Improvement in pneumatic tires and apparatus for giving it effect.

401,900 (Aug. 11). J. H. Brooker. Protector for tires.

401,964 (March 9). L. Lege. Elastic tire.

406,021 (July 31). L. Liais. Improvement in tires of rubber and analogous substances.

406,029 (Aug. 6). Salzmann et Cie. Tissue for use between tire envelope and wheel rim.

406,203 (Aug. 18). A. Ascheri. Removable tread for pneumatic tire.

406,241 (Aug. 19). J. P. L. Hebrard. Tire protector.

406,610 (Aug. 30). R. Rondeau. Method of attaching elastic tires to wheels.

406,611 (Aug. 31). A. L. Carroll. Removable tire protector.

406,686 (Sept. 1). Cie. Generale d'Electricite. Substitute for resins and natural gums.

406,648 (Aug. 30). R. Guer, Vielman, Moine, and Prévot. Revolving heel.

406,728 (Sept. 2). Peinartin, Pulum et Cie. Process of manufacturing waterproof shoes.

406,893 (Sept. 9). J. Mauger. Method of strengthening pneumatic tires.

406,903 (Sept. 10). E. Russell and Bishop. Improvement in tire protectors.

406,906 (Sept. 10). L. Hugot. Envelope for air chamber for bicycles.

406,914 (Dec. 17, 1908). J. Blanc and S. Blanc. Pneumatic tire cover.

407,041 (Sept. 16, 1909). A. Horsch et Cie. Tire protector for winter use.

407,000 (Sept. 14). R. Hutchison. Process for regenerating rubber.

407,026 (Sept. 11). P. Sausse. Process for the extraction of rubber and resins.

407,074 (Sept. 17). H. W. Johnson. Process for the purification and refining of gums.

[NOTE.—Printed copies of specifications of French patents can be obtained from R. Robert, Ingénieur-Conseil, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

THE RUBBER TRADE AT TRENTON

BY A RESIDENT CORRESPONDENT.

THE Home Rubber Co. report an increase in business for the first three months of this year of 25 per cent. over the same period of last year, and that all departments are affected by the increase. The installation of an automobile tire wrapping machine will give them an increase in the output of that department, and establish another milestone in their growth in tire manufacturing.

The Empire Rubber Manufacturing Co. will soon occupy their new plant, 60 x 90 feet, which will be used exclusively for the manufacture of tires. They have recently opened branches in Kansas City and Indianapolis. They report that their "Non-nerbestos" steam hose, which is of asbestos and rubber construction, patented some time ago, has met with much favor.

The Acme Rubber Manufacturing Co. report business thus far this year far in excess of any previous year in their history. They state that the present high price of raw rubber has not yet manifested itself in the number and size of orders received. All departments are busy, and they have contracts for all the tires they will produce this season.

The Thermod Rubber Co. report excellent trade conditions. They have opened an office in Philadelphia, with Messrs. Spencer & Dando as their representatives, for the sale of their automobile goods. They are installing a general electric power equipment with the idea eventually of operating the plant electrically throughout. They have made recently some conveyor belts of

unusual dimensions, up to 50 inches wide, 8 plies, and weighing about 7,000 pounds.

The Essex Rubber Co., manufacturers of specialties for the mechanical and other branches of the rubber trade—and particularly for the shoe manufacturing trade—report a busy season. Their fiscal year just closed shows twice the volume of business of last year. They have added lately to their premises a fine three-story brick and steel building, in which is installed a complete machine shop, at the disposal of such of the company's customers as may require special molds or dies. Both the domestic and export business of the company are responding to the increased business of the country. Mr. C. H. Oakley, president and general manager of the company, has had an unusually wide experience in the rubber manufacture.

The United and Globe Rubber Manufacturing Cos. feel decidedly optimistic, and report sufficient contracts to carry them far into the future.

The Whitehead Brothers Rubber Manufacturing Co. report very satisfactory conditions from the selling standpoint. They state the present prices of rubber have not in any way curtailed the demand for their goods.

The Joseph Stokes Rubber Co. are understood to have all the business they can handle, in both hard rubber and cotton hose departments.

The Mercer Rubber Co. have opened an office in Pittsburgh, indicating that they are widening the scope of their operations in the pursuit of trade.

The Luzerne Rubber Co. have outgrown their existing premises. The addition to their plant announced in the February issue of THE INDIA RUBBER WORLD is being completed as rapidly as possible. One of the features of the improvement of their plant will be a machine shop, with an equipment that will make them independent in so far as machine work and repairs are concerned.

The Vulcanized Rubber Co. have all the business that they can take care of conveniently, but report that a continuance of the high prices of rubber is stimulating interest in celluloid and other insulating materials.

The Hamilton Rubber Manufacturing Co., through their agent, Mr. W. L. Blodgett, say that they are well satisfied with the present volume of business.

John E. Throppe Sons Co. have been compelled to add largely to their equipment, to satisfy the demands made on them for molds for the rubber trade. They report working night and day, and are behind with orders.

General C. Edward Murray, treasurer of the Empire Rubber Manufacturing Co., returned recently from a brief vacation in Florida.

Mr. W. H. Sayen, Jr., treasurer of the Mercer Rubber Co., was married on March 31 to Miss Edith Conyers, daughter of Mrs. James Adams Conyers, at Hamilton, Bermuda. His brother, Frederick Sayen, secretary of the company, was best man. The bridegroom was vice-president of the class of 1905 at Princeton University, and the chairman of the class memorial fund. He is an enthusiastic cricketer, and it was while abroad with a cricket team that he met Miss Conyers in Bermuda.

The Raymond Rubber Co., manufacturers of reclaimed rubber, report that they have a satisfactory share of business.

L. Albert & Son, dealers in waste rubber, report scarcity in some stocks. Shoes are now coming in in large quantities, which can also be said of carriage and automobile tires. It is hinted that stocks are being withheld from the market by the smaller gatherers awaiting high prices.

THERE were 21,000 *Hevea* rubber plants in the nurseries of the British Guiana botanic gardens at the beginning of this year, ready for distribution during February. The price asked was \$3.75 per 100, or \$35 per thousand—the estimated cost of production. Besides, 30,000 seeds had been ordered.

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THE MECHANICAL RUBBER CO., CLEVELAND, OHIO

The India-Rubber Trade in Great Britain.

By Our Regular Correspondent.

THESE have been following so quickly upon each other's heels that a busy man has no time to digest the prospectuses. In the financial column of a leading daily paper investors are advised to limit their dealings to companies which have well known names on the board—that is, names known in association with successful plantations.

**RUBBER
PLANTING
COMPANIES.**

But in "boom" times, when so many are trying to "get in," people who have not followed the matter during the last few years do not know one name from another, and there is very little time available for study or for going about to ask for advice. With regard to the point of well known names, it is rather a matter for question whether a man can successfully direct innumerable companies; there must be some limit to his time and capacity.

Among the most recent flotations wild rubber propositions have been prominent. The history of wild rubber companies generally is not very exhilarating to read; something or other has always seemed to militate against their success. At the present time, however, there is this to be said for new issues of this class: they are already producing rubber, while many of the new plantation companies will do very little in this way until three or four years have elapsed and then, according to general expectations, prices will have fallen considerably.

One of the most recent wild rubber companies is the Agilete Lagos Rubber Estates, Limited, of Southern Nigeria, capitalized at £100,000. The rubber is mainly *Funtumia elastica*, though there are also *Landolphia* vines and "root rubber." A good deal is made in the prospectus of the fact that about 30 tons of *Funtumia* rubber from the Mabira Forest (Uganda) Rubber Co. has been sold at about 8 shillings per pound. This seems a high price, but what I have seen of it is certainly good quality compared with what came from Lagos about 25 years ago, at the commencement of its exploitation. Of course, the rise in price of the Uganda product apart from current market quotations is accounted for to a considerable extent by its freedom from impurities or what is the same thing to it, low loss on washing compared with the coast product of former days. I should think it doubtful whether the new company can produce anything as good from the forest, at any rate until the native methods, as is the case in the Mabira forest, are under technical control.

Another more or less wild rubber company is the Henriquez Southern Rubber Estates, Limited, of Panama, in which there is also a large acreage of plantation ready for tapping. Estimates are based on the price of 6 shillings per pound against the current price of 8s. 6d. per pound. I do not notice, however, in the prospectus any reference to the species of rubber tree. The price 8s. 6d. surely refers to Pará rubber, while the indigenous rubber mentioned in the prospectus is surely *Castilloa*, which is not quite the same thing.

The Manbesa Rubber Plantations, Limited, with a capital of £135,000, are located in German East Africa, and are highly thought of, it appears, by Herr Durnberg, the German colonial minister. Here the Ceará rubber is the principal product and this can be produced and delivered in London at 1s. 6d. per pound. The present selling price is 4s. 3d. and the prospectus estimates it at 2s. 6d. in 1914. This is not too conservative an estimate compared with the figure mentioned for Pará.

A TOPIC of interest which may be said to have caused a reaction in the trade is the taking over of the Liverpool Rubber

**ANOTHER
WORKS ABSORPTION.** Co., Limited, by Messrs. Charles Macintosh & Co., Limited. At the date of writing (March 1), the purchase is not an absolutely accomplished fact, as, although the purchase is

arranged, it has yet to be confirmed by an extraordinary general meeting of the Liverpool Rubber Co. There is little doubt, however, about the thing going through, and the shares of the Liverpool company, which have been for some time at a considerable discount, have recently had sharp rise. Specialties of the Liverpool company have been elastic thread and rubber footwear, the latter being a branch not hitherto taken up by Macintosh & Co. Previous works taken over by Macintosh & Co. are the New Eccles Rubber Works, Limited; Broadhurst & Co., and Pickard's cable works, of Derby.

THIS new industrial rubber concern is certainly launched under good auspices, as the Dunlop company are going to market the product and Messrs. Harland &

**PFLUEUMATIC (1910)
LIMITED.**

Wolff, the eminent shipbuilding firm of Belfast, are going to manufacture it at

their Southampton works. We may take it that these firms have not associated themselves with the company without making careful investigations. The main object is to produce a material of a spongy nature to take the place of the inner tube in pneumatic tires, though a large field is also claimed for the product in upholstery and as a substitute for leather, and the like. Patents seem to have been taken out practically all over the world, though no details of the patent were given in the prospectus except in so far as reference was made to the use of compressed air. [Our correspondent, writing in an earlier issue—April 1, 1908, page 221—said of Pflueumatic: "It is composed of gelatine and glycerine, but has compressed air blown into it to form a spongy material in which the air is retained in the cavities.—THE EDITOR.] It will be remembered that there are several existing patented products, such as "elastes," purporting to effect the same end, but it cannot be said that any great degree of success has rewarded the patentees; for one thing I understand that the increase of weight has proved a disadvantage. Pflueumatic is the invention of an Austrian, Herr Robert Pflueumer, and though I have not yet seen any of it I take it to be a modification of ordinary rubber sponge.

With regard to rubber sponge, which is now being made by several firms, after having been for so long a monopoly of the Russian-American India-Rubber Co., of St. Petersburg, I note a recent patent of Emile Poizot, of France, in which the use of ammonia gas is claimed. I should have thought that this reagent was hardly patentable for the purpose at this time of day. Laarman's patent of 1909 seems to come near Pflueumatic, as the solution of rubber has nitrogen gas forced into it under pressure and the product is filled into tires.

"THAT terrible word," as I once heard Mr. Haldane, the minister for war call it, at a mining institution dinner. Mr. Haldane's brother, Dr. J. S. Haldane,

ANKYLOSTOMIASIS. F.R.S., is, I may say, the great British authority on the "hookworm" disease, having made a special study of it for the Home office when it was introduced into Cornwall and the Transvaal gold mines a few years ago. It is only in connection with these localities and the colliery districts of Westphalia that I have been familiar with the name, and I was rather surprised to see in THE INDIA RUBBER WORLD [February 1, 1910—page 162] that the disease has become a curse in the southern United States and that its ravages may be apprehended in the rubber districts of Ceylon and Malaya. I don't propose to discuss an unsavory matter at length, and shall merely say that if cleanliness takes the place of dirty habits in any locality there is little to fear as to the ravages of this disease. [The annual report of The Planters' Association of Ceylon for 1909, says: "The prevalence of this

disease amongst immigrant coolies greatly affects the health and efficiency of our labor force"; and the importance of good sanitation is urged in the report upon all employers of labor.—THE EDITOR.]

THE fourteenth show of the Manchester and District Motor Trades Association was held in the City Hall, February 18-26.

**TIRES AT THE
MANCHESTER
MOTOR SHOW.**

The venue is a new one contiguous to Deansgate, where so many of the motor and tire companies have their show rooms. In many of these establishments the electric light was kept on until 10 p. m. for the benefit of visitors to the show, and in some cases the firms advertised that they were not exhibiting at the show, but that visitors could call and use their goods on the way. In the hall one missed a good many tire exhibitions of former years, such as the North British, Moseley's and Dunlop. Quite the most imposing stand was that of the Polack Tyre and Rubber Co., Limited, of Thuringia and London. In addition to the well known tires, large diameter flexible metallic tubing was prominent; also, fire brigade hose of various kinds. Their new oil proof jointing, called "granit," was to be had in small pieces gratis. The Polack "Surprise" solid tires for commercial vehicles are now supplied for vehicles up to 12 tons, the same being the case with the "Hercules" tire shown by the Dook-Swain Tire Co., and the Challiner tire prominent on the stand of the Shrewsbury & Challiner Tyre Co., Limited. This degree of strength is considerably above what one saw in these shows only a few years ago. No wonder the demand for rubber is increasing with tires 11 inches in cross section. Messrs. Charles Macintosh & Co., Limited, made a special feature at their stand of their new patent tire protector, which is stated to save 33½ per cent. of one's tire bill. The protector takes the form of a supplementary canvas tube, with a circumferential split forming an open overlapping joint. This tube is placed between the inner tube and the outer cover, its effect being to very greatly minimize the ordinary disastrous results of a cut or burst in the cover. At the Shrewsbury & Challiner stand was exhibited the "R. R. H." wheel, which is guaranteed as an absolutely non-puncturable pneumatic wheel. The adage "Wheels within wheels" is quoted in this case with truthfulness, for the invention consists, put in the briefest possible manner, of a pneumatic tired wheel within a solid tired wheel. The wheel looks rather cumbrous, and no doubt it is somewhat expensive, but it has been proved on the road that the combination of the advantages peculiar to pneumatic and solid tires give exceedingly satisfactory results.

As I am reporting a Manchester show it will not be out of place to refer somewhat at length to the further exhibits of the Shrewsbury & Challiner Tyre Co., Limited, whose headquarters are at Ardwick green, Manchester. They had a complete range of their patent "Giant" and "World" tires, suitable for all classes of vehicles weighing from 10 cwt. to 12 tons. The "World" tire is characterized by having a double wearing tread on a single foundation, which form has a decided advantage over the case of two separate tires on one wheel, where any separate strain borne by one of the treads is transmitted to the foundation and may easily give rise to a fracture. The foundation of the "World" tire being double that of a single tire, it follows that any such strains are more evenly distributed. The firm's patent detachable rim for solid tires was also in evidence; this, I understand, having proved specially valuable for foreign service, as it dispenses with the use of a hydraulic press, thus enabling the fitting to be done by an ordinary workman. In a new type of steel wheel which was exhibited, the girders are of H section with welded joints, comparative lightness combined with strength being prominent features. A full range of pneumatic tires was to be seen, comprising plain, steel studded, square and cross-grooved types, and the motorist, whatever his idiosyncrasies, could hardly fail to satisfy his fancy.

THE article on this subject in the February INDIA RUBBER

WORLD (page 701) is of more than ordinary interest. The marketing of the small rubber content of Pontianak gum (gutta-jelutong), ^{as} known to commerce heretofore, has been

**THE NEW
MALAYSIAN
RUBBER.**

proposed several times in England, and in at least one case plant on a large scale has been erected for the purpose of extracting the resin by volatile solvents. This venture, however, was not a financial success, both from the quality of rubber produced and on account of the loss of the solvent, a good deal of which escaped the condensing plant. Then, of course, the raw Pontianak had to be bought at British prices, with varying contents of water, some of it losing 70 per cent. in washing, though with the best only 30 per cent. On the dry material I have found the rubber to run from 18 to 25 per cent. Possibly improved methods of collection and coagulation may yield a product of higher rubber content, thus minimizing the work of resin removal which I presume is the process to be carried out, though no details on the point are given in the article. The rubber is certainly of good enough quality, and there will be no difficulty about a market for it. It only remains to be seen whether the new American company operating in Borneo can control the working cost so as to make the venture a success. Of course, this might be possible at present rubber prices, but difficult of achievement if a considerable fall took place. I take it that this is the case with Mexican guayule, which seems to be going on all right now, but which was difficult to deal with at the time of the last slump in rubber. The *Dyera* rubber is now on offer to British rubber manufacturers, and samples I have seen are satisfactory enough to all outward appearances. Some little hindrance to business has, however, I understand, arisen owing to the different ideas as to price prevailing between buyer and seller, and it is possible that the price at present being asked for the rubber will be somewhat reduced in order to facilitate business. I don't know what designation for the new rubber will be adopted uniformly by the trade. "Extracted rubber" is the name by which it seems to be known to our manufacturers.

EDITORIAL COMMENT.

OUR correspondent evidently has overlooked the detail outlined already in these pages that whatever rubber content may exist naturally in the latex of *Dyera costulata* has been well-nigh neutralized by the general employment, in the native practice, of kerosene as a coagulant, and that upon the employment of new agents is based the hope of the new company of being able to market Pontianak gum at very many times the hitherto current price of 5 or 6 cents a pound. The new method of coagulation remains a secret, but the fact that the ablest chemists in America, and capitalists of the highest standing, have given their approval to the new undertaking, at Goebilt, Sarawak—where two years ago only jungle land existed—seems to justify the prominence that has been given to the subject by this journal. As to guayule rubber, to which our correspondent alludes, its merit was appreciated by American manufacturers at least 30 years before the material appeared to an important extent in this market. It was only when a \$30,000,000 company took in hand the production of guayule rubber that it came into general use. Profiting by this experience the promoters of the new Malaysian rubber enterprise have not entered the field without ample financial resources. Of course it remains to be seen what results will follow the new enterprise in Borneo. And, by the way, it remains for time to fix a permanent designation of the new rubber. It is safe to predict, however, that the producers will not favor "Extracted rubber," since all real rubber is "extracted" from trees.

THE government rubber plantations in Burma, at Mergui, 1,500 acres in extent, is reported to be paying its way, and is expected to make a handsome profit later on. Among the difficulties of rubber growing in Burma, it is reported that deer are in the habit of drinking the latex when they can get at it.

Some Rubber Interests in Europe.

PROSPERITY OF THE INDUSTRY IN GERMANY.

THE Continental Caoutchouc- und Guttapercha-Compagnie, of Hanover, were again in a position to distribute a dividend of 40 per cent. This favorable result has been attained in spite of the extreme high prices for raw materials which prevailed during a great part of the year. The call for the recent annual meeting stated that a motion would be voted upon to increase the capital of the company—already 6,000,000 marks—by 3,000,000 marks [= \$714,000].

Owing to the satisfactory business for the last book year the Hannoversche Gummi-Kamm Compagnie found themselves in a position to declare a dividend of 25 per cent., against 22 per cent. in the preceding year and 21 per cent. for the year 1907.

The dividends of Hannoversche Aktien-Gummiwaren-Fabrik are 6 per cent. on the preferred stock (the same as last year) and 6 per cent. on the ordinary, against 4 per cent. last year. The share issue is 250,000 marks preferred and 1,100,000 marks ordinary.

The dividend of Vereinigten Berlin-Frankfurter Gummiwaren-Fabriken, of Gross Lichtenfelde, is 9 per cent. for the last business year, compared with 7 per cent. for the year preceding.

The firm of C. Müller—Gummiwaren-Fabrik, A.-G., in Berlin, report a dividend of 9 per cent., against 8 per cent. last year.

RIVALS IN THE BALLOON FABRIC INDUSTRY.

THE pending proposals for the reform of the French tariff schedules involve an increase of the duty on rubber fabrics for balloons, for instance, on which heretofore 200 francs per kilogram [= 18 cents per pound] have been paid, are in future to be liable to a duty of double this amount. The Berlin *Gummi-Zeitung* comments:

"The reason for this increase in duty became apparent at the last session of the [French] chamber of deputies. In reply to an inquiry of Deputy Benazet, who asked why the ministry of war has purchased the fabric for a balloon envelope from a German concern, the representative of the government stated that the fabric in question had not as yet been manufactured by any French concern, but that there was reason to expect that it would be possible to obtain it in the near future from French manufacturers. It is evident, therefore, that French concerns have recently been taking up the manufacture of balloon fabrics, and that they now want to protect themselves against the importation of German makes. It would be exceedingly desirable to see Germany succeed in preventing, if possible, this injury to her balloon fabric industry. For this purpose it would be necessary for the interested parties and the competent authorities to take adequate measures."

RUBBERIZED LEATHER IN BELGIUM.

THE Société Franco-Belge de Tannage des Cuirs au Caoutchouc (Franco-Belgian Rubber Tanned Leather Co.) has been organized at Brussels with capital of 2,200,000 francs [= \$424,600]. This is participated in by the Rubber Tanned Leather Co., Limited, registered in London last year with a capital of £250,000 [= \$1,216,625]. An account of the processes and business involved appeared in THE INDIA RUBBER WORLD July 1, 1909 (page 356). The invention upon which the whole is based was brought to public notice first through the Rubberized Leather Co., Limited, of Melbourne, Australia.

SAMSON LEATHER TIRE COMPANY BANKRUPT.

THE French company, Pneumatiques-Cuir Samson, by a judgment of the commercial court of the Seine, was declared to be in a state of bankruptcy. The decree accorded to the company the benefits of judicial liquidation, and named a provisional assignee. This company's leather tread pneumatic tires had a considerable

vogue a few years ago. The trade in America was conducted by the Samson Leather Tire Co., who were exhibitors at the leading automobile shows.

TO UTILIZE THE EPINAT PROCESSES.

THE Société des anonyme des Caoutchoucs Comprimés Epinat (Epinat Processes Pressed Rubber Co.) is being formed at Nevers, France, with offices at 4, Faubourg de Lyon—the location of Monsieur Jean Epinat, described as a manufacturer and who contributes to the company his patents and processes. The object is stated to be the manufacture, purchase, sale and repairing of rubber goods of all kinds. The capital is 136,000 francs [= \$25,090].

NORTH BRITISH RUBBER PROFITS.

THE accounts for the past business year of the North British Rubber Co., Limited, show a balance at credit of profit and loss, after writing off depreciation, of £53,471 19s. 4d., which, with the balance from 1908, makes the amount disposable £65,685 19s. 10d. In addition to the fixed dividend of 5 per cent. on preferred shares the directors proposed a dividend of 5 per cent. on the ordinary shares, making a total of £23,750 for dividends. The debenture interest was £12,750, and, after making a liberal reserve, the carry over is £23,431 4s. 8d., against £12,204 os. 6d. from the preceding year. During the later half of the year the company's business was affected unfavorably by the unprecedented high price of crude rubber, and it is feared that this may have a prejudicial effect on the coming year's working.

THE "SILVERTOWN" COMPANY WIN AT LAW.

AN action in the King's Bench division, in London, during the past month, was that of Ethelburga Syndicate, Limited, v. India-Rubber, Gutta-Percha, and Telegraph Works Co., Limited, for damages for alleged breach of contract. The alleged contract was for the building and laying of a cable between Colombia and Jamaica [see THE INDIA RUBBER WORLD, March 1, 1908—page 182]. The defense was that while negotiations were entered into, there was never a concluded bargain between the parties. His Lordship (Justice Lawrence) decided that there was no evidence to go to the jury, and judgment would be for the defendants. Counsel for plaintiffs intimated that the case would be taken to the court of appeal.

HUTCHINSON'S SIXTY YEARS OLD.

THE important French company, Etablissements Hutchinson, incorporated as Compagnie Nationale du Caoutchouc Souple, founded in 1850, are celebrating this year their sixtieth anniversary. The house was founded by Hiram M. Hutchinson, who had been interested in the industry in the United States, in view of the then large exports of American footwear to Europe, and was the first of the rubber factories established abroad by American interests. The Hutchinson company are the leading manufacturers of rubber footwear in France, besides which they have worked up an important business in tires. They have also a large factory in Germany, and sales bureaus in London and other leading capitals in Europe.

SYNTHETIC RUBBER IN COURT.

ONE of the most recent proposals for the making of synthetic rubber was aired in the London chancery court through an action by Mr. Alfred Suart against Mr. Matthew Sinclair Stevenson, Dr. Edwin J. Richardson, and the Consolidated Rubber Co., Limited. The Consolidated company was planned for the working of the Heinemann process of making synthetic rubber, in which the defendants Stevenson and Richardson were interested. The basis of the action by Suart was his allegation that he had undertaken to procure capital for the enterprise, under an agreement entitling him to commissions. The agreement was dis-

puted, but the judgment of the court was in favor of the plaintiff for £462 10s. in cash and 4,750 shares, besides which the defendants were to pay costs. In response to an inquiry by his lordship as to the value of shares of the Consolidated Rubber Co., Limited, at the time of the hearing, a witness said he was told that they had sold at about 1s. 6d. and 2 shillings.

GREAT BRITAIN.

At the forthcoming Aero and Motor Boat Exhibition at Olympia, London, the North British Rubber Co., Limited, who were the first manufacturers of British aeroplane and balloon cloth, will exhibit the following lines of products under the "North British" label: Aeroplane fabrics, balloon fabrics, pneumatic tires for aeroplane wheels, garments for aeronauts, and motor boat clothing.

A meeting of the shareholders of Okonite, Limited, was to be held in London on March 14 to hear an account of the winding up by the liquidator, Mr. T. W. Osborne.

The directors of Telegraph Construction and Maintenance Co., Limited, have declared dividends for 1909 amounting to 17½ per cent. The total for 1908 was 15 per cent.

Manchester exports classed as india-rubber goods, according to the United States consul, amounted during February last to £6,730 4s. 2d. in value, against £2,682 2s. 8d. for February, 1909. The balata and other belting included was of the declared value of £1,376 4s. 2d., against nothing in February, 1909.

The directors of the Stepney Spare Wheel, Limited, have declared an interim dividend at the rate of 20 per cent. per annum for the first half of the current business year.

W. T. Henley's Telegraph Works Co., Limited (London), have been awarded a contract for supplying and installing about 183 miles of electric wires and cables for lighting the city of Nanking, China, in competition with numerous German and other foreign firms.

GERMANY.

HERR BRUNO LINDEMANN has become director of the Deutsche "Prowodnik" Import Gesellschaft, formed recently in Berlin for the sale of the products of the Prowodnik factory of Riga, Russia. Herr Lindemann was until recently the Berlin representative of Hannoversche Gummi-Kamm Compagnie, A.-G.

ITALY.

MESSRS. PIRELLI & Co., of Milan, have recently laid a cable between Italy and the island of Sardinia, under a contract which provides for its maintenance by them for five years. The new cable is protected against the ravages of the teredo by the use brass tape armoring.

THE "KICKOFF."

THE illustration relates to the "Kickoff," first used by the Hood Rubber Co. (Boston), on their "Hood brand" self-acting shoes instead of the spur. It proved, however such a



success during the past season that the company are now using it on all their "Hood brand" styles, with a few exceptions. The Kickoff is referred to as preventing a short fit, and giving extra service just where it is needed.

LARGE DREDGING HOSE.

WHAT is said to be the largest piece of rubber hose yet manufactured is illustrated on this page. Its inside diameter is 29 inches; outside diameter, 33 inches. The hard service demanded of dredging hose is due to the fact that the sand and mud of the rivers and harbors naturally gravitate toward the lower places, particularly the channels, which require dredging at frequent intervals. When, as is generally the case, this movement is assisted by tidal action, the channels soon become too shallow for large vessels, and the giant steam suction dredge is then employed as the most economical means of restoring depth.

The centrifugal pumps in one of these dredgers must be equal to removing a 40 per cent. solution of sand and water, which, by the use of a pipe line, may be deposited on near-by marshes, reclaiming them for commercial use, and making up at least a part of the large expense involved in dredging. These pipe lines are made up of lengths of iron piping, mounted on pontoons, the lengths being connected by rubber tubing, the flexibility of



A LARGE SECTION OF DREDGING HOSE.

which permits the rise and fall of the sections made necessary by the tides. Of greatest importance, though, is the suction hose with which such a dredge must be equipped.

The hose here described was made as follows: A cold rolled steel rod an inch in diameter was formed into a spiral coil. Sheet rubber was then applied by hand so as to encase this coil and its interstices, it being intended that any slight imperfection in one layer would be offset by the next layer applied. This formed a tube or lining, such as would best withstand the action of the sand and other material which, being drawn rapidly through by thousands of tons, would otherwise soon destroy the hose by abrasure or cutting.

The completion of the hose resulted from the application of alternate layers of specially constructed duck and rubber, until the requisite strength had been obtained. A cover of gum was then put on to protect the hose from the action of the water from the outside, which otherwise would in time produce disintegration. The whole section was then vulcanized. This hose was made by the Combination Rubber Manufacturing Co., at Bloomfield, New Jersey, who, it is understood, have received orders for more hose of the same kind.

THE yield of the Mabira Forest (Uganda) Rubber Co., Limited, who are collecting *Funtumia* rubber, was reported for the nine months ending September 30, 1909, at 161,864 pints of latex, which averaged one pound of dry rubber to 2½ pints of latex. Atmospheric conditions and other conditions are stated to have slightly affected the number of pints necessary for one pint of rubber. The weight of rubber indicated is 64,746 pounds.

The Profits of Rubber Culture.

ONE HUNDRED PER CENT. FOR "CEYLON PLANTERS."

WHILE the last issue of THE INDIA RUBBER WORLD was on press it was not known in America that in the offices of Messrs. Cumberbatch & Co., Ambewattee House, Slave Island, Colombo, the directors of the Ceylon Planters' Rubber Syndicate, Limited, were drinking, in champagne, the health of the rubber planting enterprise in general, and of the Ceylon Planters' in particular, in celebration of their first 100 per cent. dividend on a year's trading. The news came a little later through a representative of the editor of the New York *Herald*, who had had a cable from Colombo, but wanted a guarantee of the accuracy of the figures. The *Herald* printed the news on the ground that THE INDIA RUBBER WORLD, "the official organ of the india-rubber trade," considered the cable "warranted by facts" existing in the rubber cultural interest.

The first fact in the case, as now known, is that the Hon. Mr. J. N. Campbell, chairman of the Ceylon Planters' Rubber Syndicate, Limited, on the date of their annual meeting, proposed the motion of the directors to declare the 100 per cent. dividend, and that the shareholders, on hearing the accounts read, voted to support the motion. Not only this, but the chairman pointed to the prospect of the dividend for the ensuing year reaching 170 per cent., on a "conservative estimate." All of which brought forth no comment from the Ceylon press; they have become prepared for extraordinary dividends from actual plantations producing actual rubber.

The Ceylon Planters' Rubber Syndicate, Limited, was formed in 1899, with 250,000 rupees [= \$81,108.32] capital, now fully paid. The company have 884 acres, in the Klang district, Federated Malay States, of which at latest reports 616 acres were planted to *Hevea* rubber, about one-half being now 8 years old. The rubber crop realized in 1906 was 9,561 pounds. In 1907 45,581 pounds were gathered, and a dividend of 15 per cent. was paid. The 1908 crop was 66,476 pounds, and the dividend 28 per cent. There were also small crops of coffee and cocoanuts. The rubber estimate for 1909 was 85,000 pounds, and the actual yield 100,437 pounds. The rubber crop for the current year is estimated at 145,000 pounds, at the lowest calculation, the greater part of which has been sold forward at 4 rupees [= \$1.28] per pound, and upon this result is based the prediction of a 170 per cent. dividend.

The dividend of 100 per cent., amounting to about \$81,000, is equal to 8 per cent. on more than \$1,000,000. On such earning capacity there doubtless are promoters who would not think of offering the company to the public for less than \$10,000,000, or £2,000,000 sterling.

The shares of this company are not traded in on the London Stock Exchange. Not even in the Ceylon stock market are any transactions in Ceylon Planters' rubber shares reported. Holders of them won't sell. They are not speculative shares. The latest recorded quotation, so far as known to us, was 5,050 rupees for 500 rupee shares. The share unit in future, by the way, will be 10 rupees.

KALUTARA CO., LIMITED—RESULTS.

At the fourteenth annual meeting (Colombo, February 8) of Kalutara Co., Limited, figures were presented which permit of the following comparison, regarding crops realized and some other details:

	Tea (lbs.)	Rubber (lbs.)	Profit	Dividends.
1905.....	365,275	1,398	Rs. 23,177	3%
1906.....	336,065	8,126	25,538	5%
1907.....	354,073	14,646	75,943	15%
1908.....	319,536	28,002	85,003	15%
1909.....	296,436	52,631	207,758	38%

The declining product of tea is attributed to the continued

growth of the rubber interplanted with it. It is stated that the last year's profit equalled 45 per cent. on the capital invested, but only 38 per cent. will be distributed in dividends. The figures under "Profit" above include balance brought forward in each year. It is stated that the oldest rubber trees on the estate, of which there are about 1,000, yielded 6 pounds on an average. The 500-rupee shares of the company were traded in recently at Colombo at 1,600 rupees.

RUBBER PLANTING IN CHIAPAS (MEXICO).

TO THE EDITOR OF THE INDIA RUBBER WORLD: I wish to express to you the appreciation which we feel toward you in reference to the articles in the February and March issues of your valuable paper, under the heading of "Castilloa Rubber in Chiapas (Mexico)," by Mr. J. L. Hermessen.

Articles of this character do great good to people like ourselves, who are attempting the cultivation of this wonderful product in our particular section of the country. Noticing in both articles the reference to our particular property, known as "La Aurora," the number of acres under cultivation accredited to us being less than they actually are, I feel that you will be glad to have information more up to date. We have at present 625 acres planted to rubber, all of which is growing perfectly, and gives every promise of being all that we could anticipate. Our planting is as follows: 200,000 one year old; 40,000 three years old; and 10,000 three to seven years old. We expect to do a large amount of clearing and planting during the next year. We anticipate great things in the future from this choice locality in the production of the *Castilloa elastica*. Yours very truly,

W. R. HEACOCK,

Treasurer Chiapas Land and Stock Co., Plantation, "La Aurora." Los Angeles, California, March 9, 1910.

PLANTING ON "RIO MICHOL" (MEXICO).

TO THE EDITOR OF THE INDIA RUBBER WORLD: I have been very much interested in the articles appearing in recent issues of your journal referring to the conditions on the rubber plantations of southern Mexico. I have read also the attack in the *American Magazine*. I am not acquainted with the one rubber plantation described in the latter publication, and cannot say that all the statements are untrue, but I will say that if even part of them are true it is the exception and not the general rule as to rubber plantations. I know something of that southern country. I have traveled the Usumacinta, Grijalva, and Tulija rivers; I have covered the distance between Monte Cristo and Salto de Agua by way of Palenque on horseback, time and again. I have visited more than a score of rubber plantations, and have failed to find on any of them conditions as pictured in the magazine referred to.

Take our own plantation—Rio Michol Plantation Co.—which is typical of the country. We secure our own labor and do not employ a labor agent. Thus the laborer gets every dollar that is charged against him. He is not compelled to buy from the company store unless he sees fit, but can often purchase an article there cheaper than he can in the towns. Men, women and children are not huddled together in a pen at night under lock and key, but each family has its own home to enter and leave at will. When a laborer has worked out his indebtedness and returns to his home town he is in as good health as the day he set foot on the plantation. And to show you he is well pleased with his life there he almost invariably wants to borrow more money before going home, promising to return in a month or two, or whenever we need him, and he keeps his promise.

The Rio Michol Rubber Plantation Co. (San Francisco, Cali-

fornia) have a little over 6,000 acres of land. They have between 125,000 and 150,000 trees growing on the property, ranging from two to eight years old, and covering some 750 acres. They began their tapping last year, when they shipped 1,002 pounds of dry rubber. The resident manager, Mr. L. L. Kochenderfer, accidentally spilled a can of rubber milk last November, and in that accident discovered a new process of separation with which he is now experimenting. He believes he can separate the rubber from the milk in 30 minutes with absolutely no coagulant, and get a perfectly hard rubber with absolutely no stickiness. I hope to report to you further on this later.

Elyria, Ohio, March 14, 1910.

H. J. HAMILTON.

UTAH PLANTERS IN MEXICO.

THE Utah-Mexican Rubber Co. (Salt Lake City, Utah) have about 5,000 acres planted to rubber in the state of Tabasco, Mexico. The rubber now ranges in age from two to six years. THE INDIA RUBBER WORLD is advised that Mr. Noble Warrum, general manager of the company, is now on the plantation, preparing to tap the six-year-old trees. There are about 300 workmen, with their families, on the property. The company recently purchased 5,000 acres of adjoining land, with an idea of planting it to bananas.

RUBBER PLANTING NOTES.

THE Paris edition of the New York *Herald*, supported mainly by American readers, in common with most of the leading European newspapers, is devoting much space to the progress of rubber culture in the Far East, and especially to the British rubber craze.

Three rubber plantations in the Federated Malay States are mentioned as having been in the market six years ago at £150,000, without a buyer. They are now regarded as worth £6,000,000.

L. Bonaparte Wyse, a French owner of rubber plantations in the Far East, is quoted by the Paris edition of the New York *Herald* as of the opinion that 15 or 20 per cent. of the plantations now being formed will never become productive.

An official of The Castilloa Rubber Plantation Co. (Portland, Oregon), advises THE INDIA RUBBER WORLD regarding their planting operations in Mexico: "Our company has cleared and planted 1,500 acres of rubber in the last two years, and has already cleared 500 acres more which are now drying under the hot sun, and will be burned over in April or early May, and will be planted not later than June, with 200 trees to the acre."

THE RUBBER TRADE IN SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

THE past month has been a repetition of big hopes and small results. Favorable as conditions may seem, yet this is not only not the active time of the year, but it is not an active dull season. The rubber business is not different from any other line of industry, and the same fate is common to all—good prospects and quiet business. One and all the rubber establishments state that there is very little to call good trade just now, although they are all planning on a very good season to come. There were nearly three weeks of the past month in which the rain ceased entirely and for a while it looked as though all of the forecasts about prosperous years were coming to naught. There was a great cry from the southern and central portions of the state on account of the threatened drought, and immediately business began to suffer. Fortunately during the past week the rains began again and the crops are saved. It is so long in the season now that there is little to fear as to further dry spells. In fact this week, the feeling is so improved that merchants are holding out once more the argument that San Francisco and the coast is at last on the verge of a most prosperous year. There is plenty of money to invest, but investors have not as yet

shown much confidence and put too many strings on their loans.

The Crandley Rubber and Supply Co. are a new company formed and incorporated in this city to enter upon an independent career in the rubber business. W. J. Crandley is the president and manager, Roy Hand, vice-president, and E. M. Crandley, secretary. Mr. William J. Crandley was formerly the active manager for the Plant Rubber and Supply Co. and is well and favorably known through the entire coast territory as an efficient and well informed rubber man. Roy Hand was formerly with the Callaghan Boiler Compound Co. E. M. Crandley was not heretofore engaged in this line of business. The new firm has leased a store at No. 41 California street, near to the water front and very convenient to the principal downtown stores of the wholesalers.

Squires & Byrne, dealers in rubber hose belting and packing, formerly located at No. 52 Steuart street, have moved to very much larger and more convenient quarters at No. 565 Mission street, where they have fitted up two stories and basement of a building 85 x 40 feet in dimensions. Several considerations had a share in the moving, although the principal one is that this firm's business has increased to such dimensions that their quarters on Steuart street could no longer accommodate them, and although their lease there had not yet expired they found it necessary to move. Their move was decided upon prior to their securing the agency for the Seamless Rubber Co. (New York and New Haven), but this acquisition will be much more conveniently handled in the new store. Another very important move which this progressive firm just made was the purchase of all the stock and lines of the Sterling Rubber Co.

Mr. A. F. Libis, the general auditor of The B. F. Goodrich Co., has been paying San Francisco a visit. Speaking of his opinion relative to tire conditions he said that although the price of tires was now unreasonably high, he believes they will undoubtedly be reduced before the output for next season is put on the market.

H. C. Norton, manager for the American Rubber Manufacturing Co., whose factory and salesrooms are at Emeryville, near Oakland, reports a very active business. This firm has been working overtime of late to get up with orders.

R. J. McNeilly, with the Barton Packing and Rubber Co., is now in Los Angeles looking after business for the firm in that locality. Mr. McNeilly is the sales manager for the company. They report the packing business as being very good.

William J. Gorham, of the Gorham Rubber Co., came back from Seattle, spent one day in San Francisco and then went on down to Los Angeles. There is not enough excitement here in the business line to detain him long, and he finds it most congenial to keep moving.

THE "CARPRINGCO" TIRES.

IN an age of machine-made products anything hand made, as a rule, carries a premium price; but like all rules, plus exceptions, this one has its exception in "Carpringco," which is an entirely hand made tire, yet is being marketed at standard prices. The New Jersey Car Spring and Rubber Co. manufacture this tire, and in an interview one of the company's officials stated:

"Last May when we started the manufacture of "Carpringco," our initial output was modest indeed, in view of the several excellent makes and at really low prices already on the market. But we felt so certain that our process would produce a tire as near perfection as is possible, that we did not hesitate to enter into the field of tire manufacture, and our confidence was fully justified, for we are now finding it necessary to run our tire factory to the fullest capacity in order to meet the increasing demands." In addition to tires, the Car Spring company are making a full line of casings and inner tubes.

THE OBITUARY RECORD.

JAMES HUGGINS, who died of apoplexy at his home, No. 11 Clifton place, Brooklyn, New York, on February 19, had long been active in the rubber footwear trade. He was born in Ireland November 21, 1848, and removed to Brooklyn at an early age with his parents. For years he was at the head of the New York shoe jobbing house of James Huggins & Co., and after the retirement of that firm from the trade he was at the head of the rubber department of jobbing houses. At the end he was connected with J. E. Bates & Co., No. 202 Church street,



THE LATE JAMES HUGGINS.

[From *Masonic Standard*, New York.]

New York. Mr. Huggins long had been prominent in Masonic circles. Funeral services were held in the Brooklyn Masonic Temple and were largely attended. The Cathedral quartette sang. The interment was at Greenwood cemetery, Brooklyn. Mr. Huggins is survived by a widow.

* * *

JOHN J. FIELDS, the founder of the New Jersey Car Spring and Rubber Co. (Jersey City, New Jersey), died on March 27 at his country home, Schooleys Mountain, New Jersey, after several months of illness, in his eighty-ninth year. Mr. Fields retired from active business several years ago, and was succeeded by his son, John J. Fields, Jr., in the presidency of the company named. THE INDIA RUBBER WORLD regrets that there was not time before going to press this month for a more adequate announcement of this sad event.

* * *

THOMAS J. SKINNER, who for a number of years was treasurer of the Stoughton Rubber Co. (Stoughton, Massachusetts), from which office he resigned about two years ago on account of ill health, died early in the month from an attack of apoplexy. He was one of the organizers of the Wakefield Saving Bank and served as its president. Later he was elected first president of Wakefield Coöperative Bank. Mr. Skinner was born in 1844, and was a civil war veteran. He is survived by two daughters (both married) and a son.

* * *

CHARLES CUSHMAN, superintendent of several departments at the factory of the National India Rubber Co. (Bristol, Rhode Island), died at his home on March 14, after an illness of several months, in his fifty-sixth year. Mr. Cushman, after going

through the public schools at Havana, Ohio—where he was born September 12, 1845—became employed in the factory of the Cleveland Rubber Co., after which he was for several years with the Chicago works of the Mechanical Rubber Co., and later for eight years general superintendent of the New York Belting and Packing Co., Limited. He went next to Manchester, England, where he remained for four years with David Moseley & Sons, Limited, rubber manufacturers. From Moseley's he came to the National factory. Mr. Cushman is survived by a widow, a daughter, and two sons, one of the latter being connected with the Moseley factory, and the other assistant superintendent of the National India Rubber Co.

* * *

GEORGE H. ALLING, president of the Royal Rubber Co. (Akron, Ohio), was killed accidentally in the factory on March 24. No one else was present at the time. When last seen alive Mr. Alling was on a step ladder near a rapidly moving shaft. It is supposed that his clothing was caught on the shaft and that he was whirled to death before he could call for help.

PNEUMATIC TIRES ECONOMICAL.

THE effect of the equipment of track sulkies with pneumatic tires in increasing trotting speeds has been noted more than once in these pages. Recently a very practical suggestion regarding the effect of pneumatics upon the sulkies themselves has been made by Mr. Fred W. Wright, agent in New York for a leading make of sulkies.

He said that before the advent of the pneumatic tires it was generally understood and believed among builders of track vehicles that McMurray & Fisher turned out more than a thousand sulkies a year. With five or six other prominent builders all doing a flourishing business, the number built and sold was then very large. In those days drivers rarely used a sulky more than one year, and very often they used up several in a single season, a few broken spokes, a slightly sprung axle or any other mishap usually serving to condemn the vehicle for racing.

Asked for an estimate of the number of track sulkies now sold in a year, Mr. Wright said:

"I doubt whether all the builders in the United States today find a market for more than 700 sulkies annually. The reason is that the modern pneumatic sulky is almost indestructible. Put a new pair of wheels on an old frame and you have, to all intents and purposes, a new sulky. I saw trainers last year using pneumatics that were built in 1893, and they may keep on using them for years to come."

The effect of the pneumatic tires on sulkies and sulky building has its counterpart in the effect of rubber tires on pleasure vehicles of all kinds, says the *New York Herald*. Operating as shock absorbers they have prolonged the life of the fashionable carriage beyond all calculation and have practically killed the repair business which before their introduction was one of the most profitable branches of carriage building.

AN INDIA-RUBBER BANK.

A REPORT from Paris states that a prominent group of French, English, Belgian, and Dutch capitalists has taken the initiative for the organization of a special bank, whose business is to be exclusively confined to the establishing of new rubber plantations, participation in those already in existence, and the advancing of funds to plantation companies. The new company, which is to be known as the Syndicat des Plantations d'extrême Orient (Syndicate of Plantations in the Far East), will have its main office in The Hague, with branch offices in Batavia, Singapore, Delhi, and Meray. The provisional capital stock is to be 2,000,000 francs [= \$386,000], divided into 40 shares of 50,000 francs each.

News of the American Rubber Trade.

RUBBER GOODS—ANNUAL MEETING.

THE annual meeting of stockholders of the Rubber Goods Manufacturing Co., for the election of directors and the transaction of any other business which may properly be brought before the meeting, will be held at the principal office of the company, No. 15 Exchange place, Jersey City, New Jersey, on Thursday, April 14, 1910, at 12 o'clock noon. The transfer books will not be closed, but the New Jersey corporation law will not allow to be voted at said meeting any share of stock which shall have been transferred after March 25, 1910.

GETTING READY FOR THE CENSUS.

THE President of the United States issued on March 15 the customary proclamation in respect of the thirteenth decennial census, to be taken this year, beginning on April 15, and calling upon the people to coöperate with the employés of the census bureau with a view to making this great and necessary public undertaking a success.

STANDARD UNDERGROUND CABLE—CAPITAL INCREASED.

THE Standard Underground Cable Co. (Pittsburgh, Pennsylvania) have increased their capital from \$2,800,000 to \$3,500,000, by the declaration of a stock dividend of 25 per cent. Books closed on March 16 and reopened on March 23. The capital was increased from \$2,000,000 about three years ago. In addition to the regular 3½ per cent. dividend in January last, an extra 3 per cent. was declared, and a 14 per cent. special dividend. The stock has been quoted recently around \$320.

BOSTON YARN CO.—NEW SALES ALLIANCE.

THE Boston Yarn Co., with former headquarters at No. 346 Broadway, New York, have recently formed a sales alliance with the J. Spencer Turner Co. and the United States Cotton Duck Corporation, at No. 86 Worth street. The Boston Yarn Co. will retain their corporate identity; the management of the mills will remain unchanged, and the sales management will continue under the direction of Mr. R. P. M. Eagles, well known in the rubber trade. Mr. M. C. Taylor, formerly treasurer of the Boston Yarn Co., has been elected vice-president of the J. Spencer Turner Co. and of the United States Cotton Duck Corporation. This alliance will prove a valuable acquisition to the J. Spencer Turner Co., as it enables them to offer certain completing lines of fine ducks which they did not previously handle, and will undoubtedly tend to facilitate the sales operations of both companies.

NEW FOOTWEAR FACTORY AT GRANBY.

THE Miner Rubber Co., Limited (Granby, Quebec), are operating their new factory, which has been described already in THE INDIA RUBBER WORLD. Their capacity is referred to as 20,000 pairs of footwear per day. The product is marketed under two brands, "Miner" and "Shefford."

In the same connection may be mentioned the Walpole Rubber Co., Limited, also at Granby, who have begun the active production of heels.

CHICAGO RUBBER CLOTHING CO.

At the recent annual meeting of the Chicago Rubber Clothing Co. (Racine, Wisconsin), the following were elected directors: Charles H. Lee, Mrs. E. V. Laughton, David G. Jaynes, George C. Bryant, F. M. Knapp, and James Murphy. These directors elected the following officers: Charles H. Lee, president; Mrs. E. V. Laughton, treasurer; and George G. Bryant, secretary. This company, under the management of Mr. Bryant, has greatly extended its facilities, and lately has ordered an additional single end spreader for proofing up to 63 inch materials, and a geared double calender wide enough to double fabrics

of the same width. In addition to a general line of very attractive rubber clothing, including fabrics of practically every type and color, they are making an interesting line of specialties, such as bathing caps, fishermen's hats, toilet cases, and a variety of other very effective novelties.

JAMES BOYD & BROTHER—CHANGE OF LOCATION.

THE firm of James Boyd & Brother, Inc., so long connected with the rubber goods and fire equipment trade in Philadelphia, are now located at No. 1519 North American building. They had previously been located for twenty-five years at No. 14 North Fourth street. This business is descended from that of James Boyd & Sons, established in 1819 and dissolved in 1886, after which the present firm came into existence, first as a partnership and latterly as a corporation.

NEW HOUSE IN WASTE RUBBER.

THE firm of Oskar Konary, waste rubber merchants, Berlin, have opened a branch office in New York, at Nos. 16-18 Exchange place, under the management of Mr. Max Pfug.

A NEW RUBBER RECLAMING PLANT.

THE Monatiquot Rubber Works Co., incorporated October 21, 1909, have begun the manufacture of reclaimed rubber, for which purpose the company was formed. The location of the factory is at South Braintree, Massachusetts—on the Monatiquot river, about 12 miles from Boston. Robert Cowen Harlow, president of the company, is a nephew of the late Robert Cowen, of the Boston Woven Hose and Rubber Co., and Mr. Harlow himself was for several years connected with the Woven Hose company, particularly in their reclaiming branch. James H. Stedman is treasurer of the company. Their head-office is at No. 555 Atlantic avenue, Boston.

THE SEASON OF INVENTORY.

NOTICES are posted at the factory of the National India Rubber Co. (Bristol, Rhode Island), of a shut-down beginning March 31, work to resume on Monday, April 18. This is the usual time of the year for taking inventory and making repairs in rubber footwear factories, the business year in that industry ending with the month of March.

The two factories of the Woonsocket Rubber Co. are closed for inventory and repairs, work to be resumed on Monday, April 11.

The usual annual shut-down at the factory of the Goodyear's India Rubber Glove Manufacturing Co. (Naugatuck, Connecticut) began on March 22, two days earlier than had been intended, on account of the breaking of the main shaft. The management were planning to replace this shaft during the season of repairs. Work is to be resumed on April 4.

TRADE NEWS NOTES.

THE forty-fourth regular quarterly dividend of 1 3/4 per cent. on the preferred shares of the Rubber Goods Manufacturing Co. was payable on March 15.

At a special meeting of the common council of Butler, New Jersey, announcement was made of the receipt of a check for a handsome amount from the American Hard Rubber Co., one of whose factories is located in that town, to be expended for the improvement of the town's fire apparatus.

A newspaper report is that since January 1 something like 3,500 men have been added to the working forces of the rubber tire factories of Akron, Ohio.

William H. Scheel (No. 159 Maiden Lane, New York) sends a monthly reminder to the trade interested in rubber factory supplies, in the shape of a neat little calendar for the month.

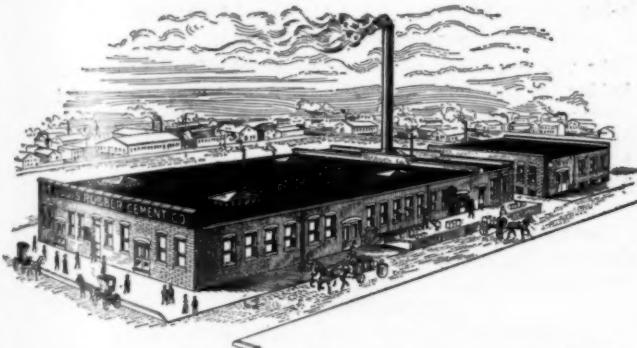
THE LATEST TIRE PATENT DECISION.

The decision in favor of the plaintiff in the suit of The Single Tube Bicycle and Automobile Tire Co. v. Continental Rubber Works (Erie, Pennsylvania), in the United States circuit court for the western district of Pennsylvania, in the matter of the alleged infringement of the Tillinghast patent, No. 497,971, was appealed from, with the result that the circuit court of appeals has confirmed the decision of the lower court that the Tillinghast patent was not anticipated, is valid, and has been infringed. The decision in the circuit court was written by Judge Buffington, and is reported in 174 Fed. Rep., 50.

The Continental Rubber Works have entered into a license agreement for the balance of the life of the patent, which covers the standard type of single tube tires in the United States.

ST. LOUIS CEMENT SPREADING.

The St. Louis Rubber Cement Manufacturing Co. (St. Louis) have acquired the Blick-Williams Co.'s insulating and tire tape business, in addition to their recent purchase of the National Rubber and Chemical Co., of Indianapolis. They are



equipped with the most modern tape making machines, including washers, spreaders, and calenders, and are turning out a complete line of shoe and rubber manufactures cements, as well as insulating and tire tapes, and are, in fact, equipped to supply anything included in this general class of goods.

MR. DE LISSE MAKES A CHANGE.

ANNOUNCEMENT was made at the Boston automobile show that Horace De Lisser, the well known president and general manager of the Ajax-Grieb Rubber Co., makers of the "Ajax" tires, made famous by their guarantee of 5,000 miles, has been elected to the vice-presidency with entire charge over the sales, of the new United States Motor Co., in which the Maxwell-Briscoe Motor Co. and the Columbia Motor Car Co. are already known as members. The new \$16,000,000 corporation considers itself fortunate in being able to induce such a man to join its executive organization, which is destined to be the strongest in the motor car industry of the world. In accepting the new honors Mr. De Lisser has found it advisable to resign from active connection with the Ajax-Grieb Rubber Co., which he created and whose great growth in the period of four years has been due entirely to the quality of its products and the shrewd, farsighted business administration he has given it. Mr. De Lisser is to be succeeded by William G. Grieb, formerly vice-president, and before the organization of the Ajax-Grieb Rubber Co., president of the Grieb Rubber Co. Mr. De Lisser became identified with the rubber business in 1894, when he conducted a large bicycle tire factory in England, which was later sold to a London syndicate headed by Ellis Parr, the banker. In disposing of this business Mr. De Lisser agreed to remain out of the rubber manufacturing for a term of five years. He then turned his attention to the American agency of the famous Worcestershire sauce, and made that table condiment known from Atlantic to Pacific. At the expiration of the five-year agreement to remain out of the rubber

trade he became identified with the International Rubber Co., of Milltown, New Jersey, remaining with this organization until the formation of the Ajax-Grieb Rubber Co. two years later. The wide experience of Mr. De Lisser in the management and sales department of his different business enterprises especially fits him for the new duties with the United States Motor Co.

RUBBER FACTORY INSURANCE.

At the annual meeting of the Rubber Manufacturers' Mutual Insurance Co., at Boston, on January 26, the financial statement presented showed a slight decrease in the amount at risk on December 31, 1909, as compared with the preceding year. The company's surplus, however, and the assets applicable to payment of losses both show a substantial increase. No change was made in the board of directors, and the officers were reelected. Mr. F. W. Moses was succeeded in the office of assistant secretary and assistant treasurer by Mr. W. B. Brophy. The statement furnished embraces the following details:

ASSETS.	
Bonds at market value.....	\$371,410.00
Cash in bank and office	48,977.82
Premiums in process of collection	13,441.52
Accrued interest	5,882.07
Total	\$439,711.41
LIABILITIES.	
Unadjusted losses	\$3,856.65
Expenses accrued	311.09
Taxes accrued, not due	7,108.91
Unearned premiums	228,931.06
Surplus	\$199,503.70
Amount at risk December 31, 1909.....	\$52,132,052.00
Premiums in force thereon	457,862.12
Premiums received during the year	459,507.28
Interest received during the year	16,628.50
Total income for the year	476,135.78
Losses incurred in 1909	23,998.28
Amount of deposit premium returned to policy holders	383,552.53
Average percentage of deposit premium returned in 1909	81.04%
Percentage of premium returned January 1, 1910..	85%
Cash assets available for payment of losses.....	\$428,434.76
Assessment liability	2,289,310.60
Total available for payment of losses.....	\$2,717,745.36

The report is fuller than hitherto in that it gives a list of the company's bond holdings at market value at the close of the fiscal year.

TRADE NEWS NOTES.

THE Empire Tire Co. (Trenton, New Jersey), have opened a branch in Indianapolis, Indiana, at No. 208 North Delaware street, under the management of Charles Weiland. This is the first direct branch opened in Indianapolis by a tire manufacturing company.

The Fairfield Rubber Co. (Fairfield, Connecticut) have contracted for an additional building, one story, 30 x 50 feet, to be used as a "spreader" room.

The Sanders Duck and Rubber Co. (St. Louis), for many years located at No. 807 Washington avenue, have arranged for the occupancy of new premises at Twelfth street and Washington avenue. The lease is for eight years, at a price which has not been made public but is understood to be \$8,000 per year.

Mr. William H. Mayo has been admitted to the long established Boston firm of W. F. Mayo & Co., wholesale rubber footwear dealers, Nos. 197-203 Congress street, Boston. He is a son of William F. Mayo, senior member of the firm, and a brother of George Hanover Mayo, the second member. Mr. W. H. Mayo has been in the store of the firm for several years, during which he has become familiar with the business.

NEW INCORPORATIONS.

ESSEX Rubber Co., March 1, 1910, under the laws of New Jersey; capital authorized, \$100,000. Incorporators: Clifford H. Oakley, Arthur E. Moon, William O. Anderson, and Arthur J. Anderson. Mr. Oakley has been manufacturing rubber specialties under this firm name for the past three years, and, since July, 1908, at the present location, May and Beale streets, Trenton, New Jersey.

F. W. Savage Rubber Co., February 21, 1910, under the laws of Maine; capital, \$360,000. Incorporators: Elton M. Thompson, C. F. Tenant, and William H. Gulliver, all of Portland, Maine.

Matador Tire and Vulcanizing Co., February 25, 1910, under the laws of Illinois; capital, \$60,000. Incorporators: Lambert G. Smith, Charles C. Griswold, and James R. Findlater. Location: No. 1400 Michigan avenue, Chicago.

Removable Tire Co., March 9, 1910, under the laws of Ohio; capital, \$10,000. Incorporators: J. H. Wolford, C. M. Krouse, J. E. Pierce, Ralph Wolford, and Charles N. Stuckey. Location: Cedarville, Ohio.

J. W. Wood Elastic Web Co., March 3, 1910, under the laws of Massachusetts; capital, \$50,000. Incorporators and directors: George E. Belcher (president), John William Wood (treasurer and general manager), and Thomas Haydock (superintendent). Succeeds to business of Chelsea Braiding Co., at Stoughton, Massachusetts.

Cincinnati Rubberless Traction Wheel Co., March 3, 1910, under the laws of Ohio; capital \$10,000. Incorporators: Frank L. Mulholland, Art Atwood, Arthur H. Bandon, Robert J. Coulter, and E. R. Torgler. To manufacture a resilient wheel without rubber, patented by Newton Campbell, of Cleves, Ohio. Location, Toledo, Ohio.

The Banner Rubber Stamp and Seal Co., March 14, 1910, under the laws of Missouri; capital \$5,000, fully paid. Incorporators: R. H. Bischoff, Theodore W. Kisker, and Alexander Light, all of St. Louis.

EXPANSION OF THE NEW JERSEY CAR SPRING COMPANY.

The Chicago branch of the New Jersey Car Spring and Rubber Co. has been moved to a new and more spacious office and salesrooms at No. 173 Randolph street, where will be carried a complete stock of the company's various lines of mechanical rubber goods, as well as the new "Carpringco" automobile tire in all sizes, insuring prompt shipments throughout the West. This office is under the management of Mr. C. G. Race, assisted by an increased staff of salesmen. Mr. J. A. Hull, as manager of the company's fire hose department for the West, has also made his headquarters at the same address.

To further facilitate the distribution of their products, the Car Spring company have established offices at St. Louis, Omaha, and in the Franklin building, at Philadelphia, the latter having been put in charge of Mr. Joseph S. Fireng, Jr. They are very shortly to open a branch in Boston, under the management of Mr. Frank V. Stewart. Mr. Stewart has had a business career which has given him a wide acquaintance in the rubber trade, especially in the East, he having been connected formerly for many years with a prominent rubber house.

The New Jersey Car Spring and Rubber Co., whose main offices and works are at Jersey City, New Jersey, was established in 1858.

AN ELECTRIC TIME SYSTEM.

THERE has long existed a need of a reliable and complete electric time system in large rubber mills, the satisfying of which seems to have been accomplished by the Standard Electric Time Co., as illustrated by their Catalogue No. 32. The most interesting feature of this system is their time stamp, electrically operated and controlled by a master clock, insuring uniformity of time throughout the plant, and eliminating all questions as to correctness and the difference of time as recorded by the clocks in the different departments, as is the case with the old system.

MR. GILBERT GOES TO THE PACIFIC COAST.

WILLIAM H. GILBERT, who had been treasurer of L. Candee & Co. (New Haven, Connecticut) since July 1, 1908, was lately appointed treasurer and manager of the Pacific Coast Rubber Co., with headquarters at Seattle, Washington. The Pacific Coast company, incorporated under the laws of Washington state, August 24, 1900, have organized an extensive list of retail stores in the leading coast towns, which stores have become a part of the distributing system of the United States Rubber Co., who are in control also of the rubber footwear factory of L. Candee & Co.

Mr. Gilbert began his connection with the trade 21 years ago as receiving clerk at the Millville factory of the Woonsocket Rubber Co. For some time he was assistant general manager of the Joseph Banigan Rubber Co., in addition to which he for several years audited the books of the branch offices of the United States Rubber Co., throughout the country.

H. Stuart Hotchkiss, since August, 1908, vice-president of L. Candee & Co., has been elected treasurer also. W. D. Walker, who recently joined the forces of the Candee company, has been elected to the new office of assistant treasurer. He is a brother-in-law of John J. Watson, Jr., of the United States Rubber Co.

TYER RUBBER CO.'S ANNUAL.

AT THE recent annual meeting of shareholders of the Tyer Rubber Co. (Andover, Massachusetts) the following were elected directors: John H. Flint, F. H. Jones, F. W. Thomas, E. G. Savery, F. T. Carlton, H. H. Noyes, H. G. Fiske, and N. F. Flint. Frederick H. Jones was reelected president and John H. Flint treasurer.

RUBBER CLUB OF AMERICA.

The annual meeting of the Rubber Club of America (formerly the New England Rubber Club) will be held in Boston on Monday, April 18.

TRADE NEWS NOTES.

THE Rubber Products Co. (Barberton, Ohio) have been making marked progress of late. A new boiler house for the installation of new Stirling boilers with a capacity of 600 h. p. is in progress of construction.

The Falls Rubber Co., with headquarters at Akron and a factory at Cuyhoga Falls, Ohio, have increased their capital stock from \$75,000 to \$200,000. They are manufacturing automobile and bicycle tires, with orders booked ahead for several months, and also horseshoe pads.

The Hagstrom Brothers Manufacturing Co., Inc. (Lindsborg, Kansas), issue a 1910 calendar, the ornamental feature of which is the head of an Indian girl reproduced from an oil painting; attention is called in the margin to their blow out patch for tires.

The Firestone Tire and Rubber Co., Akron, Ohio, have opened a branch in San Francisco, at No. 442 Van Ness avenue, in addition to their two direct branches in Los Angeles and Seattle, and their agency in Portland, Oregon. They have thus four establishments on the Pacific coast for the distribution of their tires and rims. Two new general distributing agencies of the Firestone company are the Fort Wayne Vulcanizing Works, at Fort Wayne, Indiana, and the Burwell-Smith Auto Supply Co., at Oklahoma City, Oklahoma.

The Crocker Rubber Co. have removed their store in Brockton, Massachusetts—one of the nine stores in different cities controlled by the Crocker syndicate—from No. 139 Main street, which position they have occupied for seven years, to No. 227 Main street. The new store was opened on March 19.

E. F. Norton & Co., dealers in scrap rubber in Chicago, have combined their general offices and warehouse at one address, Nos. 718-720 South Canal street, where they will be in a better position both to handle shipments consigned to them and to fill orders.

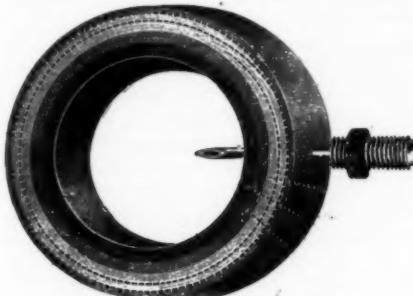
The Fisk Rubber Co. (Chicopee Falls, Massachusetts), have leased for 20 years a five-story building to be erected on Boylston street, next to the corner of Fairfield street, Boston.

THE TRENTON RUBBER INDUSTRY.

"THE Rubber Industry of Trenton, New Jersey," is the title of a "booklet" in a series which the Trenton (New Jersey) *Evening Times* is publishing under the heading "Great Industries." Trenton long has been a center of importance in the rubber industry, but latterly the growth of this interest there has been especially marked. It is stated in this booklet that in ten years the annual output of the business has increased more than 60 per cent. The author of this booklet is Mr. Frank Thompson, of the staff of the newspaper named. He has with much pains outlined the history of the rubber industry in Trenton from its beginning, mentioning not only the various companies by name, but most of the persons who have contributed to their growth and success.

WALPOLE TO MAKE RUBBER TIRES.

THE business of the Valveless Inner Tube Co., organized recently in New York for the sale in America of an automobile tire of French origin—"La Sans Valve"—has been acquired by the Walpole Rubber Co. (Walpole, Massachusetts), who, it is



SECTION OF "SANS VALVE" TIRE.

understood, intend engaging in its manufacture on a large scale. In noticing the exhibit of this tire at the French Automobile Show in Paris, THE INDIA RUBBER WORLD (February 1, 1909—page 179) spoke of it as a novelty there, "though its basic principle was employed years ago in tire making in the United States, . . . it is a hose pipe cycle tire, the inner part of which is a layer of unvulcanized rubber. Air is admitted by puncturing the tire, with the idea that when the inflator is withdrawn the puncture will heal at once, thus retaining the air." The tire has since been developed for use on automobiles.

THE HARD RUBBER INDUSTRY AT SEYMOUR.

ONE of the leading industrial enterprises of Seymour, Connecticut, is that of H. P. & E. Day, Inc., who recently have increased their plant to an important extent after having brought up their capital stock last year from \$40,000 to \$200,000. The company named are the manufacturers of special lines of pencils and penholders, and of hard rubber goods generally. In addition to the goods marketed under their own name, the firm mentioned manufacture one of the most widely used lines of fountain pen holders known to the world, under the name of the patentee. The hard rubber industry at Seymour originated sixty-seven years ago through the agency of the late Austin G. Day, who, after having obtained a license under Nelson Good-year's hard rubber patent to use the same in the manufacture of stationers' articles, in 1858 obtained a patent for an improved process in the preparation of hard rubber. Mr. Day at first had his hard rubber compounded at the factory of the Beacon Dam Co., at Beacon Falls, Connecticut. He was the first in America to treat successfully Assam rubber for factory use, and it is a legend in the trade that in a single year the Boston Belting Co. paid him enough in royalties on Assam rubber to pay for the building of a factory of his own at Seymour. In 1867 Austin G. Day patented his "Kerite" compound, and in 1872 he built an insulated wire factory at Seymour, out of which has grown an important business in the electrical industry. These enterprises

were apart from the hard rubber business mentioned at the beginning of this article. The business in 1872 came into the control of Henry P. Day and Edmund Day, brothers of the late Austin G. Day. The business was continued as a copartnership until December 31, 1901, when it became an incorporation under the laws of Connecticut. H. P. Day is president, Edmund Day treasurer, and Walter Randall secretary.

UNITED STATES RUBBER CO.'S ISSUES.

TRANSACTIONS on the New York Stock Exchange for five weeks, ending March 26:

COMMON STOCK, \$25,000,000.

[The treasury of a subsidiary company holds \$1,344,000.]

Last Dividend, April 30, 1909—1%.

Week February 26	Sales 5,700 shares	High 45 $\frac{1}{4}$	Low 43 $\frac{1}{2}$
Week March 5	Sales 3,900 shares	High 45 $\frac{1}{4}$	Low 43 $\frac{1}{2}$
Week March 12	Sales 13,000 shares	High 48 $\frac{1}{4}$	Low 44 $\frac{1}{2}$
Week March 19	Sales 4,800 shares	High 47	Low 44
Week March 26	Sales 1,900 shares	High 45 $\frac{1}{4}$	Low 44

For the year—High, 52 $\frac{1}{2}$, Jan. 3; Low, 35, Feb. 7.

Last year—High, 57 $\frac{1}{2}$; Low, 27.

FIRST PREFERRED STOCK, \$39,824.400.

Last Dividend, Jan. 31, 1910—2%.

Week February 26	Sales 2,000 shares	High 114 $\frac{3}{4}$	Low 113
Week March 5	Sales 2,700 shares	High 115 $\frac{1}{2}$	Low 114 $\frac{1}{2}$
Week March 12	Sales 3,100 shares	High 116 $\frac{1}{2}$	Low 115 $\frac{1}{2}$
Week March 19	Sales 1,030 shares	High 115 $\frac{1}{2}$	Low 114 $\frac{1}{2}$
Week March 26	Sales 719 shares	High 115 $\frac{1}{2}$	Low 114 $\frac{1}{2}$

For the year—High, 116 $\frac{1}{2}$, Jan. 10; Low, 108, Feb. 7.

Last year—High, 123 $\frac{1}{2}$; Low, 98.

SECOND PREFERRED STOCK, \$9,965,000.

Last Dividend, Jan. 31, 1910—1 $\frac{1}{4}$ %.

Week February 26	Sales . . . shares	High . . .	Low . . .
Week March 5	Sales 500 shares	High 80 $\frac{1}{2}$	Low 80
Week March 12	Sales 1,600 shares	High 81 $\frac{1}{2}$	Low 80 $\frac{1}{2}$
Week March 19	Sales 425 shares	High 81	Low 80
Week March 26	Sales 175 shares	High 80	Low 80

For the year—High, 84, Jan. 3; Low, 76, Feb. 7.

Last year—High, 89 $\frac{1}{2}$; Low, 67 $\frac{1}{2}$.

SIX PER CENT. TRUST GOLD BONDS, \$19,500,000.

Week February 26	Sales 103 bonds	High 103 $\frac{1}{4}$	Low 103
Week March 5	Sales 146 bonds	High 103 $\frac{1}{4}$	Low 102 $\frac{3}{4}$
Week March 12	Sales 207 bonds	High 103 $\frac{1}{4}$	Low 103 $\frac{1}{4}$
Week March 19	Sales 166 bonds	High 103 $\frac{1}{4}$	Low 102 $\frac{3}{4}$
Week March 26	Sales 62 bonds	High 103 $\frac{1}{4}$	Low 103 $\frac{1}{4}$

For the year—High, 104 $\frac{1}{2}$, Jan. 15; Low, 102 $\frac{3}{4}$, March 5.

Last year—High, 106; Low, 102 $\frac{3}{4}$.

LESS SEA ISLAND COTTON THIS YEAR.

THE net receipts at Savannah from September 1 to March 24 were 49,458 bales, against 49,690 bales last year. The crop in sight at all ports on March 24 was 88,525 bales, against 88,958 bales last year. John Malloch & Co. (Savannah), report stocks on March 24, 1910, and at corresponding previous dates, as follows:

	1908.	1909.	1910.
Savannah	7,861	11,392	4,701
Charleston	2,455	1,224	417
Total	10,316	12,616	5,118

RUBBER FACTORY SUPPLIES.

WILLIAM H. SCHEEL, of New York, calls attention to the fact that he is now carrying in store regularly chloride of sulphur and tetrachloride of carbon, carefully packed in small and large lots, to meet different demands from the trade. This house now carries no less than 20 different grades of rubber substitute—white, brown, and black—and is prepared to make prompt shipments.

SENECA RUBBER CO. (BUFFALO).

THE Seneca Rubber Co., organized recently at Buffalo, New York, and since March 1 located at No. 912 Main street, are manufacturers' agents in that territory for G & J tires, and for tire accessories in general. Roswell Park, Jr., is president and treasurer, and William O. Cramp is vice-president and secretary. The latter was manager of the tire agency formerly maintained by the G & J company in Buffalo.

GROWTH OF THE FIRESTONE TIRE AND RUBBER CO.

The capital of the Firestone Tire and Rubber Co. (Akron, Ohio), has been increased from \$500,000 to \$4,000,000, and out of the new issue of stock dividend of 700 per cent. will be declared. The Firestone company was incorporated originally under the laws of West Virginia. This company will be dissolved and a charter for a new company by the same name has been obtained under the laws of Ohio. Plans have been made for a very large additional factory, work on which will be begun at once.

MORE CAPITAL IN SWINEHART TIRES.

At a special meeting of the shareholders of Swinehart Tire and Rubber Co. (Akron, Ohio) during March it was voted to increase the capital from \$200,000 to \$400,000. Only \$100,000 of the new stock will be issued at once. It is the intention of the company in the near future to build an important addition to their factory.

PERSONAL MENTION.

MR. PAUL MORTON, president of the Equitable Life Assurance Society of New York, has been elected vice-president of the Pan American Railroad Co., and is now in Mexico on a tour of inspection of its line. The Pan American is now in operation from a point on the National Tehuantepec railway to the Guatemalan border transversing the rubber country of Chiapas described recently in *THE INDIA RUBBER WORLD* by Mr. J. L. Hermessen. The president of the Pan American is the Hon. David E. Thompson, lately United States ambassador to Mexico. This, by the way, is not the only interest which Mr. Morton has in Mexico. At least he is chairman of the board of directors of the Intercontinental Rubber Co., a concern interested so largely in guayule rubber.

Mr. Bertram G. Work, president of The B. F. Goodrich Co. (Akron, Ohio), accompanied by Mrs. Work, was a passenger on the *Kaiserin Augusta*, which sailed from New York for Hamburg on March 5.

Mr. Frank A. Seiberling, president of the Goodyear Tire and Rubber Co. (Akron, Ohio) accompanied by Mrs. Seiberling and their son, was recently a voyager to the Amazon valley, whence comes the rubber used in the tires of this important company.

Colonel George T. Perkins, long president of The B. F. Goodrich Co. (Akron, Ohio) and still on its board, has been making an extended stay at the Potter Country Club, at Santa Barbara, California, in the management of which his brother, D. T. Perkins, is interested. Colonel Perkins has been mentioned in newspaper dispatches of the past month as being much interested as a witness of the polo games at Santa Barbara.

Mr. David S. Collins, president of the Oxford Tripoli Co., Limited (New York), sailed on March 30 for England, in which country fossil flour is becoming popular among rubber manufacturers. This sale has increased very much of late, also in the United States.

On March 16 occurred the wedding of Mr. Alpheus Webster Smith and Miss Emily May, daughter of Mr. Lewis May, of Chicago. Mr. Smith is the western manager of the Goodyear's India-Rubber Glove Manufacturing Co., with headquarters in Chicago. Mr. Smith has started on a western trip to extend over four months, and it is serving also as a wedding journey. In August Mr. and Mrs. Smith will start for a visit to Europe.

The annual meeting of the stockholders of the Gutta Percha and Rubber Manufacturing Co. will be held at the office of the company, Nos. 126-128 Duane street, New York, on April 6, at 12 o'clock noon, for the purpose of electing directors and inspectors of election for the ensuing year.

Review of the Crude Rubber Market.

THE market for crude rubber has been in a decidedly unsettled condition during the month, and there is no basis for predicting the next outcome. Quotations at New York are based rather upon prices cabled from Europe and from primary markets than upon actual transactions locally. It is true that rubber has changed hands during the month at prices far higher than were ever known in the past. Of course manufacturers in the present condition of the market are not purchasing beyond their absolute requirements. Arrivals of Pará sorts thus far are but little larger than usual, the increase being infinitesimal as compared with the increased demand for rubber in the tire industry. Plantation rubber is being offered at the London auctions at the rate of about 200 tons a fortnight, but even this does not relieve the situation, particularly as there is no increased output from any other source. As this paper goes to press a London price is cabled of 11s. 4d. [= \$2.76] for Pará Upriver fine. It is difficult to make quotations in the present state of the market, but the figures below represent the result of careful efforts in the best informed circles.

THE LATEST QUOTATIONS.

Following are the quotations at New York for Pará grades, one year ago, one month ago, and March 31, the current date:

PARÁ.	Apr. 1, '10.	Mar. 1, '10.	Mar. 31.
Islands, fine, new.....	119 @ 120	190 @ 200	252 @ 253
Islands, fine, old.....	121 @ 122	201 @ 202	none here
Upriver, fine, new.....	122 @ 123	212 @ 213	270 @ 271
Upriver, fine, old.....	125 @ 126	214 @ 215	272 @ 273
Islands, coarse, new.....	57 @ 58	89 @ 90	105 @ 106
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new.....	94 @ 95	128 @ 129	172 @ 173
Upriver, coarse, old.....	none here	129 @ 130	174 @ 175
Cametá	63 1/2 @ 64	97 @ 98	130 @ 131
Caucho (Peruvian), ball.....	83 @ 84	130 @ 131	174 @ 175

Cauchó (Peruvian), sheet..... 73 @ 74
Ceylon, fine, sheet..... 129 @ 130

101 @ 102
230 @ 231

135 @ 136

260 @ 261

AFRICAN.			
Lopori, ball, prime.....	108 @ 109	152 @ 153	204 @ 205
Lopori, strip, prime.....	none here	none here	none here
Aruwimi	94 @ 95	133 @ 134	170 @ 171
Upper Congo, ball, red.....	96 @ 100	none here	none here
Ikelemba	none here	none here	170 @ 171
Sierra Leone, 1st quality.....	95 @ 96	135 @ 136	171 @ 172
Massai, red	95 @ 96	136 @ 137	none here
Soudan niggers	85 @ 86	none here	112 @ 114
Cameroon, ball	64 @ 65	94 @ 95	none here
Benguela	59 @ 60	88 @ 89	125 @ 126
Madagascar, pinky	89 @ 90	110 @ 112	151 @ 152
Accra, flake	20 @ 21	30 @ 31	34 @ 35

CENTRALS.			
Esmeralda, sausage	80 @ 81	117 @ 118	152 @ 153
Guayaquil, strip	70 @ 71	none here	120 @ 121
Nicaragua, scrap	78 @ 80	116 @ 117	152 @ 153
Panama	62 @ 63	none here	none here
Mexican, scrap	none here	115 @ 116	151 @ 152
Mexican, slab	57 @ 58	none here	none here
Mangabeira, sheet	52 @ 53	85 @ 86	none here
Guayule	30 @ 31	75 @ 76	99 @ 100

EAST INDIAN.			
Assam	92 @ 93	100 @ 101	none here
Pontianak .....	.. @ 5	634 @ 7	8 1/4 @ 8 1/4
Borneo	35 @ 45	none here	none here

Late Pará cables quote:	Per Kilo.	Per Kilo.
Islands, fine	12 \$500	Upriver, fine
Islands, coarse	4 \$800	Upriver, coarse

Latest Manáos advices:	Exchange	Exchange
Upriver, fine	15 \$100	15 5/32d.
Upriver, coarse	9 \$600	

Statistics of Para Rubber (Excluding Caucbo).

	NEW YORK			Total	Total	Total
	Fine and	Medium	Coarse	1910.	1909.	1908.
Stocks, January 31...tons	190	42	=	232	235	110
Arrivals, February.....	1446	559	=	2005	1754	1397
Aggregating	1636	601	=	2237	1989	1507
Deliveries, February.....	1479	572	=	2051	1604	1355
Stocks, February 28....	157	29	=	186	385	152

	PARA.			ENGLAND.		
	1910.	1909.	1908.	1910.	1909.	1908.
Stocks, January 31...tons	1170	1075	1245	345	180	850
Arrivals, February.....	3660	3930	4250	1215	1165	1870
Aggregating	4830	5005	5495	1560	1345	2720
Deliveries, February.....	4365	3295	4130	1050	925	1355
Stocks, February 28....	465	1710	1365	510	420	1355

	1910.	1909.	1908.
World's visible supply, February 28...tons	4,221	4,675	5,089
Pará receipts, July 1 to February 28.....	23,130	22,340	21,195
Pará receipts of caucho, same dates.....	3,910	4,000	3,295
Afloat from Pará to United States, Feb. 28	1,980	2,000	657
Afloat from Pará to Europe, February 28	1,170	1,420	1,950

African Rubbers.

	NEW YORK STOCKS (IN TONS).		
February 1, 1909.....	157	September 1, 1909.....	123
March 1.....	200	October 1.....	67
April 1.....	178	November 1.....	134
May 1.....	268	December 1.....	134
June 1.....	156	January 1, 1910.....	228
July 1.....	268	February 1.....	134
August 1.....	130	March 1.....	161

Rubber Scrap Prices.

LATE New York quotations—prices paid by consumers for carload lots, per pound—show a decline since last month, particularly in shoes:

Old rubber boots and shoes—domestic..	85@ 83
Old rubber boots and shoes—foreign..	83@ 81
Pneumatic bicycle tires.....	7 1/2@ 7 1/2
Automobile tires	7 1/2@ 7 1/2
Solid rubber wagon and carriage tires..	9 1/4@ 9 1/2
White trimmed rubber	10 @ 11
Heavy black rubber	6 1/4@ 6 1/2
Air brake hose	5 @ 5 1/2
Garden hose	2 1/8@ 3
Fire and large hose	3 1/4@ 3 1/2
Matting	1 3/4@ 1 1/8

PARA RUBBER VIA EUROPE.

	POUNDS.
FEB. 21.—By the <i>Walderssee</i> —Hamburg:	
Poel & Arnold (Fine).....	15,000
FEB. 23.—By the <i>Augusta</i> —Hamburg:	
New York Com. Co. (Fine).....	10,000
New York Com. Co. (Coarse).....	27,000
Poel & Arnold (Coarse).....	7,000
FEB. 25.—By the <i>Philadelphia</i> —London:	
Poel & Arnold (Coarse).....	15,000

	POUNDS.
MARCH 1.—By the <i>Colon</i> —Mollendo:	
W. R. Grace & Co. (Fine).....	8,000
W. R. Grace & Co. (Caucho).....	5,000
MARCH 2.—By the <i>Cymric</i> —Liverpool:	
New York Com. Co. (Fine).....	225,000
Livesey & Co. (Coarse).....	11,000
Robinson & Co. (Fine).....	22,500
A. D. Hitch & Co. (Fine).....	7,000
MARCH 4.—By the <i>Adriatic</i> —London:	
Poel & Arnold (Fine).....	15,000
Geo. A. Alden & Co. (Coarse).....	5,000

	POUNDS.
MARCH 2.—By the <i>Cymric</i> —Liverpool:	
New York Com. Co. (Fine).....	225,000
Livesey & Co. (Coarse).....	11,000
Robinson & Co. (Fine).....	22,500
A. D. Hitch & Co. (Fine).....	7,000
MARCH 4.—By the <i>Adriatic</i> —London:	
Poel & Arnold (Fine).....	15,000
Geo. A. Alden & Co. (Coarse).....	5,000

MARCH 2.—By the *Laurentic*—Liverpool:

New York Com. Co. (Fine).....	115,000
General Rubber Co. (Fine).....	65,000
Raw Products Co. (Fine).....	9,000
Livesey & Co. (Coarse).....	9,000
Poel & Arnold (Caucho).....	56,000

MARCH 5.—By the *Lincoln*—Hamburg:

General Rubber Co. (Fine).....	11,000
General Rubber Co. (Coarse).....	35,000

MARCH 8.—By the *Vaderland*—Antwerp:

A. D. Hitch & Co. (Fine).....	13,500
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MARCH 12.—By the *Campania*—Liverpool:

Livesey & Co. (Fine).....	10,000
Livesey & Co. (Coarse).....	7,000

MARCH 14.—By the *Baltic*—Liverpool:

New York Com. Co. (Fine).....	145,000
General Rubber Co. (Fine).....	56,000
General Rubber Co. (Coarse).....	22,500

MARCH 15.—By the *Indian*—Liverpool:

New York Com. Co. (Fine).....	70,000
General Rubber Co. (Fine).....	67,000
Robinson & Co. (Fine).....	11,500
Raw Products Co. (Fine).....	11,500

NEW YORK RUBBER PRICES FOR JANUARY (NEW RUBBER).

Upriver, fine	1.78@ 1.87	1.20@ 1.22	.74@ .82
Upriver, coarse	1.11@ 1.15	.90@ .92	.56@ .65
Islands, fine	1.67@ 1.81	1.13@ 1.16	.71@ .76
Cametá .....	.71@ .75	.55@ .59	.45@ .50
Cametá .....	.79@ .85	.62@ .64	.45@ .50

NEW YORK RUBBER PRICES FOR FEBRUARY (NEW RUBBER).

Upriver, fine	1.87@ 2.10	1.20@ 1.26	.66@ .76
Upriver, coarse	1.15@ 1.28	.91@ .96	.48@ .56
Islands, fine	1.81@ 2.04	1.15@ 1.20	.65@ .74
Islands, coarse .....	.75@ .80	.57@ .61	.41@ .46
Cametá .....	.85@ .98	.62@ .65	.42@ .46

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weight in Pounds.]

FEB. 23.—By the steamer *Javary*, from Iquitos:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
Edmund Reeks & Co.....	23,400	.....	8,600	1,500=	33,500
C. Ahrenfeldt & Sons.....	6,000	.....	.....	9,000=	15,000
A. T. Morse & Co.....	7,800	.....	.....	.....	7,800
TOTAL	37,200	.....	8,600	10,500=	56,300

MARCH 4.—By the steamer *Clement*, from Manáos and Pará:

Poel & Arnold.....	517,600	98,300	271,200	324,800=	1,211,900
General Rubber Co.....	524,600	93,200	148,700	22,100=	788,600
A. T. Morse & Co.....	118,500	43,300	146,000	42,700=	359,500
New York Commercial Co.....	65,200	15,200	24,600	32,300=	137,300
Lawrence Johnson & Co.....	55,600	10,400	125,400	.....	191,400
C. P. dos Santos.....	44,300	10,400	26,200	.....	80,900
Henderson & Korn.....	27,300	11,500	21,200	.....	65,900
Hagemeyer & Brunn.....	15,700	.....	35,000	.....	50,700
Edmund Reeks & Co.....	.....	.....	24,400	.....	24,400
William E. Peck & Co.....	1,100	.....	1,300	.....	2,400
TOTAL	1,369,900	282,300	824,000	427,800=	2,904,000

MARCH 7.—By the steamer *Justin*, from Manáos and Pará:

Poel & Arnold.....	168,000	92,500	87,200	22,200=	369,900
General Rubber Co.....	250,000	43,400	97,700	7,700=	398,800
New York Commercial Co.....	76,800	29,000	15,200	58,700=	179,700
A. T. Morse & Co.....	65,700	3,600	81,200	3,300=	153,800
Hagemeyer & Brunn.....	35,800	6,100	.....	.....	41,900
William E. Peck & Co.....	26,900	6,200	3,200	.....	36,300
TOTAL	632,200	180,800	284,500	91,900=	1,180,400

MARCH 10.—By the steamer *Guajara*, from Pará:

Henderson & Korn.....	18,600	.....	83,800	.....	102,400
A. T. Morse & Co.....	40,300	3,900	21,100	.....	65,300
Poel & Arnold.....	.....	.....	11,200	25,800=	37,000
Edmund Reeks & Co.....	3,600	.....	36,300	.....	39,900
Lawrence Johnson & Co.....	.....	.....	29,000	.....	29,000
Hagemeyer & Brunn.....	6,800	.....	23,800	.....	23,800
TOTAL	69,300	3,900	213,800	25,800=	312,800

FEB. 21.—By <i>El Dia</i> —Galveston: Continental-Mexican Rubber Co.	*145,000	Henry Mann & Co.	3,000	R. del Castillo.	3,000
FEB. 21.—By the <i>Waldenses</i> —Hamburg: George A. Alden & Co.	*6,500	Wessels-Kulenkampff Co.	3,000	A. Held.	1,000
FEB. 21.—By the <i>Alleghany</i> —Colombia: Kunhardt & Co.	5,000	Delma Cortissos & Co.	1,500	MARCH 21.—By the <i>Tennyson</i> —Bahia: J. H. Rossbach & Bros.	22,500
A. Held	4,000	New York Commercial Co.	1,500	A. Hirsch & Co.	5,000
Maitland, Coppell & Co.	2,000	H. Marquardt & Co.	1,000	MARCH 22.—By the <i>Comus</i> —New Orleans: Manhattan Rubber Mfg. Co.	2,000
Caballero & Blanco	1,000	J. J. Julia & Co.	1,000	G. Amsinck & Co.	1,000
Delma Cortissos & Co.	1,000				3,000
FEB. 23.—By the <i>Victoria</i> —Hamburg: George A. Alden & Co.	5,000	MARCH 9.—By the <i>Prins August</i> —Colon: G. Amsinck & Co.	5,000	AFRICAN.	
FEB. 23.—By the <i>Joachem</i> —Colon: G. Amsinck & Co.	4,000	R. G. Barthold.	1,500		
New York Commercial Co.	2,500	Isaac Brandon & Bros.	1,500	FEB. 18.—By the <i>Pennsylvania</i> —Hamburg: General Rubber Co.	17,000
A. Santos & Co.	1,000			George A. Alden & Co.	20,000
Isaac Brandon & Bros.	1,500	MARCH 10.—By the <i>Voltaire</i> —Bahia: Poel & Arnold.	35,000	A. T. Morse & Co.	19,000
FEB. 23.—By <i>El Rio</i> —Galveston: Cont.-Mexican Rubber Co.	*65,000	J. H. Rossbach & Bros.	33,000	Poel & Arnold.	13,500
C. T. Wilson & Co.	*20,000	New York Commercial Co.	11,000	Rubber Trading Co.	9,000
FEB. 24.—By the <i>Protens</i> —New Orleans: A. T. Morse & Co.	2,500	A. D. Hitch & Co.	11,000	Livesey & Co.	6,500
Manhattan Rubber Mfg. Co.	1,000	A. Hirsh & Co.	8,000	Robert Badenhop	1,800
FEB. 26.—By the <i>Esperanza</i> —Frontera: Harburger & Stack.	5,500				86,800
E. U. Tibbals & Co.	5,000	MARCH 11.—By the <i>Matanzas</i> —Tampico: Ed. Maurer	*70,000	FEB. 19.—By the <i>Louisa</i> —Lisbon: Poel & Arnold	35,000
H. Marquardt & Co.	3,500	Poel & Arnold.	40,000		
Poel & Arnold.	2,500	New York Commercial Co.	33,000	FEB. 21.—By the <i>Waldenses</i> —Hamburg: Poel & Arnold.	67,000
A. Dumont & Co.	1,500	For London	13,500	A. T. Morse & Co.	45,000
Isaac Kubie & Co.	1,000			George A. Alden & Co.	20,000
Mexican Products Co.	1,000	MARCH 12.—By the <i>Moro Castle</i> —Mexico: Harburger & Stack.	9,000	General Rubber Co.	20,000
FEB. 28.—By the <i>Sigismund</i> —Bogota: A. Held	7,000	E. Steiger & Co.	7,000	Robert Badenhop	13,800
Isaac Brandon & Bros.	2,000	E. U. Tibbals & Co.	6,000	Rubber Trading Co.	7,000
FEB. 28.—By <i>El Sud</i> —Galveston: Continental-Mexican Rubber Co.	*135,000	George A. Alden & Co.	5,500	W. L. Gough Co.	7,000
MARCH 1.—By the <i>Colon</i> —Colon: G. Amsinck & Co.	8,000	A. Dumont & Co.	2,500		
Mecke & Co.	4,000	General Export Co.	1,000	FEB. 23.—By the <i>Victoria</i> —Hamburg: General Rubber Co.	37,000
Markt & Struller Co.	1,000	H. Marquardt & Co.	1,500	Rubber Trading Co.	25,000
MARCH 2.—By the <i>Cymric</i> —Liverpool: Poel & Arnold.				George A. Alden & Co.	22,500
MARCH 2.—By the <i>Hugin</i> —Tampico: Ed. Maurer	*150,000	MARCH 12.—By the <i>Grant</i> —Hamburg: New York Commercial Co.	*13,500	W. L. Gough Co.	7,000
Poel & Arnold.	*40,000	George A. Alden & Co.	*11,000	Robert Badenhop	22,200
Isaac Kubie & Co.	*45,000			Poel & Arnold.	4,500
MARCH 3.—By the <i>Tags</i> —Colombia: Maitland, Coppell & Co.	7,000	MARCH 12.—By the <i>Campania</i> —Liverpool: George A. Alden & Co.	5,000	FEB. 24.—By the <i>Kroonland</i> —Antwerp: A. T. Morse & Co.	67,000
A. Held	7,000	MARCH 14.—By the <i>El Rio</i> —Galveston: Cont.-Mexican Rubber Co.	*65,000	Poel & Arnold.	45,000
R. del Castillo.	4,000	C. T. Wilson & Co.	*15,000	FEB. 25.—By the <i>Bretagne</i> —Havre: C. P. dos Santos.	2,500
A. M. Capen's Sons.	3,000			MARCH 1.—By the <i>Moncensio</i> —Lisbon: Poel & Arnold.	25,000
Isaac Brandon & Bros.	2,000	MARCH 2.—By the <i>Cymric</i> —Liverpool: George A. Alden & Co.	70,000		
J. Sambrada & Co.	1,500	Isaac Brandon & Bros.	9,000	A. T. Morse & Co.	50,000
G. Amsinck & Co.	1,500	American Trading Co.	4,000	Poel & Arnold.	80,000
J. Sambrada & Co.	1,000	Andean Trading Co.	3,500	Robinson & Co.	22,500
Graham, Hinkley & Co.	1,000	Mecke & Co.	2,500	Livesey & Co.	2,500
MARCH 4.—By the <i>Finland</i> —Antwerp: Poel & Arnold.		J. H. Rossbach & Bros.	1,500		225,000
MARCH 4.—By <i>El Cid</i> —New Orleans: A. T. Morse & Co.	8,000	Caballero & Blanco	1,500	MARCH 2.—By the <i>Berlin</i> —Genoa: W. L. Gough Co.	8,000
A. Rosenthal & Sons.	3,000	Suzarte & Whitney	1,500	MARCH 2.—By the <i>Laurentic</i> —Liverpool: Poel & Arnold.	
G. Amsinck & Co.	2,500	Isaac Brandon & Bros.	1,500	A. T. Morse & Co.	45,000
W. R. Grace & Co.	2,000	Roldan & Van Sickle	1,500	Livesey & Co.	9,000
Wessels, Kulenkampff & Co.	1,500	Graham, Hinkley & Co.	1,000	A. T. Morse & Co.	8,000
Eggers & Heinlein.	1,000	Pablo Calvet & Co.	1,000	MARCH 3.—By the <i>Zeeland</i> —Antwerp: Ed. Maurer.	
MARCH 4.—By the <i>Mexico</i> —Frontera: Harburger & Stack.	4,000	MARCH 15.—By the <i>Sarnia</i> —Greytown: Ed. Maurer.	*15,000	A. T. Morse & Co.	13,500
E. U. Tibbals Co.	3,500	G. Amsinck & Co.	4,500	MARCH 4.—By the <i>Finland</i> —Antwerp: A. T. Morse & Co.	
General Export Co.	3,500	Suzarte & Whitney	1,500	W. H. Stiles.	18,000
W. L. Hadleigh.	2,000	Isaac Brandon & Bros.	1,500	W. H. Stiles.	11,000
MARCH 5.—By <i>El Dorado</i> —Galveston: Cont.-Mexican Rubber Co.	*78,000	Roldan & Van Sickle	1,500	W. L. Gough Co.	5,500
C. T. Wilson & Co.	*15,000	Graham, Hinkley & Co.	1,000	MARCH 5.—By the <i>Adriatic</i> —London: Poel & Arnold.	55,000
E. S. Churchill.	*5,000	Pablo Calvet & Co.	1,000	George A. Alden & Co.	45,000
MARCH 5.—By the <i>Lincoln</i> —Hamburg: George A. Alden & Co.			Livesey & Co.	11,000	
MARCH 7.—By the <i>Justin</i> —Ceara: J. H. Rossbach & Bros.		MARCH 16.—By <i>El Monte</i> —Galveston: Cont.-Mexican Rubber Co.	*31,500	MARCH 5.—By the <i>Lincoln</i> —Hamburg: George A. Alden & Co.	11,500
MARCH 7.—By the <i>Altai</i> —Colombia: Maitland, Coppell & Co.	10,000	C. T. Wilson & Co.	*22,500	Poel & Arnold.	11,000
Kunhardt & Co.	4,500			W. L. Gough Co.	8,000
Mecke & Co.	2,500	MARCH 17.—By the <i>Oruña</i> —Bogota: Maitland, Coppell & Co.	5,500	A. T. Morse & Co.	5,000
Isaac Brandon & Bros.	1,000	MARCH 27.—By the <i>Brasos</i> —Galveston: Poel & Arnold.	*15,000	Rubber Trading Co.	5,000
Delma, Cortissos & Co.	1,000				40,500
MARCH 7.—By the <i>Vigilancia</i> —Tampico: Ed. Maurer.	*67,000	MARCH 18.—By <i>El Mar</i> —New Orleans: A. Rosenthal & Sons.	4,000	MARCH 8.—By the <i>Minnetona</i> —London: George A. Alden & Co.	11,000
New York Commercial Co.	*67,000	A. T. Morse & Co.	3,500	MARCH 8.—By the <i>Vaderland</i> —Antwerp: A. T. Morse & Co.	
Poel & Arnold.	*35,000	Robinson & Co.	1,500	W. L. Gough Co.	55,000
	*169,000	T. N. Morgan Co.	1,500	George A. Alden & Co.	48,000
MARCH 7.—By the <i>Advance</i> —Colon: Piza, Nephews & Co.	11,000	A. N. Rotholz.	1,000	H. A. Gould Co.	25,000
Isaac Brandon & Bros.	6,000				133,000
George A. Alden & Co.	3,500	MARCH 19.—By the <i>Allianca</i> —Colon: J. Sambrada & Co.	6,000	MARCH 10.—By the <i>Belford</i> —London: General Rubber Co.	115,000
Fidanque Bros. & Co.	3,500	G. Amsinck & Co.	5,000	W. L. Gough Co.	11,000
		Fidanque Bros. & Co.	4,000		126,000
MARCH 7.—By the <i>Segurancia</i> —Tampico: Ed. Maurer.	*135,000	Henry Mann & Co.	3,500	MARCH 10.—By the <i>Hudson</i> —Bordeaux: C. P. dos Santos.	11,000
New York Commercial Co.	*35,000	A. Rosenthal & Sons.	2,500		
		Isaac Brandon & Bros.	1,500	MARCH 11.—By the <i>President Grant</i> —Hamburg: A. T. Morse & Co.	110,000
		Roldan & Van Sickle	1,000	W. L. Gough Co.	11,000
		A. M. Capen's Sons.	1,500	Livesey & Co.	7,000
				Rubber Trading Co.	11,000
		MARCH 21.—By the <i>Segurancia</i> —Tampico: Ed. Maurer.	*135,000		
		New York Commercial Co.	*35,000		
		For Hamburg	5,000		
			*175,000		
		MARCH 21.—By the <i>Allegany</i> —Colombia: Kunhardt & Co.	6,000		
		Maitland, Coppell & Co.	3,500		

RUBBER FLUX

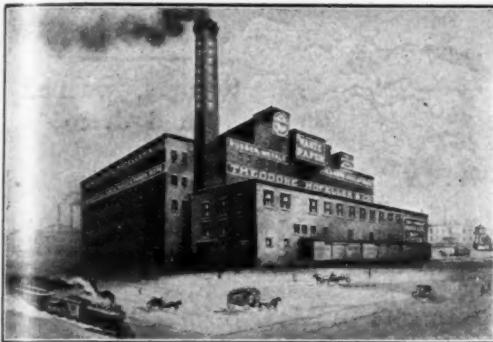
No. 17. Particularly adapted to softening material for tubing machine. Almost universally used for waterproofing wire.

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WALPOLE VARNISH WORKS...
ELECTRIC INSULATION LABORATORY



THEODORE HOFELLER & CO.
BUFFALO, N. Y.

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OLD RUBBER
IN THE WORLD

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MALTA HYDRO-CARBON
BUY THE BEST

HAS BEEN ADOPTED BY THE VERY LARGEST RUBBER FOOTWEAR MANUFACTURERS IN THE UNITED STATES, AFTER HAVING TRIED OUT ALL OTHER BRANDS.

THE SUPERINTENDENTS OF THESE FACTORIES, ACKNOWLEDGED TO BE THE FOREMOST MEN IN THAT BRANCH OF "THE" INDUSTRY, HAVE ONE AND ALL TOLD US THAT OUR MINERAL RUBBER HAS NO EQUAL, WHEN CONSIDERED FROM THE STANDPOINT OF UNIFORMITY, FREENESS FROM MOISTURE, ELIMINATING BLISTERS AND REDUCING THE PERCENTAGE OF SECONDS. PURITY, 98.84%.

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Yarns for every purpose
Sheetings

"Passaic Cotton Mills"

Auto Top Ducks
Specialties in Weaving

Mechanical Ducks
Osnaburgs

PARRA

Unequaled in strength
and elasticity

MADERO

Light in color and abso-
lutely clean

STANDARD BRAND OF

GUAYULE

RUBBER

DURANGO

Washed and dry, ready
for use

LION

Refined, washed
and dried

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PRODUCERS OF

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LONE STAR BRAND

ALAMO BRAND

TEXAS BRAND

CHARLES T. WILSON

SALES AGENT

46 Cortlandt Street,

NEW YORK

[Telegraphic Address: "CRUDERUB"]

(I invite inquiries from Manufacturers respecting the various grades of rubber I market)

MARCH 12.—By the <i>Campania</i> —Liverpool: George A. Alden & Co. 22,500	MARCH 3.—By the <i>Axenfels</i> —Colombo: New York Commercial Co. *25,000 A. T. Morse & Co. 22,500 *47,500	MARCH 1.—By the <i>Shimosa</i> —Singapore: Poel & Arnold 225,000 George A. Alden & Co. 125,000 W. L. Gough Co. 300,000 Heabler & Co. 900,000 L. Littlejohn & Co. 325,000 D. A. Shaw & Co. 150,000 2,025,000								
MARCH 14.—By the <i>Baltic</i> —Liverpool: George A. Alden & Co. 125,000 Poel & Arnold 100,000 A. T. Morse & Co. 34,000 Robinson & Co. 34,000 General Rubber Co. 5,500 W. L. Gough Co. 2,500 301,000	MARCH 5.—By the <i>Adriatic</i> —London: Poel & Arnold *115,000 New York Commercial Co. *60,000 Poel & Arnold 9,000 George A. Alden & Co. 5,000 189,000	MARCH 18.—By the <i>Wray Castle</i> —Singapore: W. L. Gough Co. 250,000 Poel & Arnold 250,000 George A. Alden & Co. 450,000 L. Littlejohn & Co. 450,000 Heabler & Co. 700,000 D. A. Shaw & Co. 110,000 2,210,000								
MARCH 14.—By the <i>Amerika</i> —Hamburg: A. T. Morse & Co. 34,000 Poel & Arnold 33,000 Rubber Trading Co. 9,000 General Rubber Co. 7,000 83,000	MARCH 7.—By the <i>Tannefels</i> —Colombo: A. T. Morse & Co. *20,000 New York Commercial Co. *11,000 *31,000	GUTTA-PERCHA. POUNDS.								
MARCH 14.—By the <i>Minnewaska</i> —London: Poel & Arnold 30,000 George A. Alden & Co. 22,500 Livesey & Co. 7,000 59,500	MARCH 8.—By the <i>Vaderland</i> —Antwerp: Poel & Arnold *56,000 New York Commercial Co. 5,000 *61,000	FEB. 18.—By the <i>Pennsylvania</i> —Hamburg: E. Oppenheim 11,500								
MARCH 15.—By the <i>Indian</i> —Liverpool: George A. Alden & Co. 60,000 A. T. Morse & Co. 65,000 Poel & Arnold 55,000 W. L. Gough Co. 11,000 Rubber Import Co. 4,500 195,500	MARCH 8.—By the <i>Minnetonka</i> —London: New York Commercial Co. *30,000 General Rubber Co. *13,500 A. T. Morse & Co. *13,500 Robinson & Co. *11,000 *68,000	FEB. 23.—By the <i>Victoria</i> —Hamburg: E. Oppenheim 20,000								
MARCH 15.—By the <i>Zeeland</i> —Antwerp: Rubber Trading Co. 22,500 A. T. Morse & Co. 11,000 33,500	MARCH 10.—By the <i>St. Louis</i> —London: Poel & Arnold *15,000	MARCH 2.—By the <i>Shimosa</i> —Singapore: Heabler & Co. 15,000								
MARCH 16.—By the <i>Gothland</i> —Antwerp: Poel & Arnold 45,000 H. A. Gould Co. 5,000 50,000	MARCH 11.—By the <i>Grant</i> —Hamburg: George A. Alden & Co. 30,000 Rubber Trading Co. 2,500 32,500	BALATA.								
MARCH 16.—By the <i>Oceanic</i> —London: Poel & Arnold 125,000	MARCH 14.—By the <i>Baltic</i> —Liverpool: A. T. Morse & Co. *22,500 Livesey & Co. 5,000 27,500	FEB. 23.—By the <i>Suriname</i> —Demerara: George A. Alden & Co. 2,500 Ed. Maurer 2,500 Frame & Co. 1,000 6,000								
MARCH 17.—By the <i>Leitetia</i> —Lisbon: Poel & Arnold 67,000	MARCH 14.—By the <i>Minnewaska</i> —London: Poel & Arnold *45,000 New York Commercial Co. *7,000 A. T. Morse & Co. 11,000 Poel & Arnold 11,000 74,000	MARCH 15.—By the <i>Saramaca</i> —Trinidad: J. A. Pauli & Co. 2,000 George A. Alden & Co. 1,500 Gillespie Bros. & Co. 1,000 4,500								
MARCH 21.—By the <i>Lapland</i> —Antwerp: A. T. Morse & Co. 80,000 Poel & Arnold 35,000 W. L. Gough Co. 5,000 120,000	MARCH 16.—By the <i>Oceanic</i> —London: Poel & Arnold *55,000	MARCH 11.—By the <i>President Grant</i> —Hamburg: W. L. Gough Co. 5,500								
EAST INDIAN.										
[*Denotes plantation rubber.]										
FEB. 18.—By the <i>Pennsylvania</i> —Hamburg: A. T. Morse & Co. 22,500	MARCH 18.—By the <i>Wray Castle</i> —Singapore: W. L. Gough Co. 22,500 Heabler & Co. 33,500 Poel & Arnold 17,000 Robinson & Co. 9,000 Malaysian Rubber Co. *10,000 92,000	CUSTOM HOUSE STATISTICS.								
FEB. 21.—By the <i>Wyneric</i> —Singapore: Heabler & Co. 22,000 George A. Alden & Co. 11,000 Otto Isenstein & Co. 11,000 Poel & Arnold 11,000 55,000	MARCH 19.—By the <i>Rotenfels</i> —Colombo: A. T. Morse & Co. *25,000 New York Commercial Co. 15,000 *40,000	PORT OF NEW YORK—FEBRUARY.								
FEB. 25.—By the <i>Philadelphia</i> —London: Poel & Arnold *115,000 New York Commercial Co. *50,000 *165,000	MARCH 21.—By the <i>Minneapolis</i> —London: Poel & Arnold *22,500 Robinson & Co. 9,000 New York Commercial Co. *11,000 *42,000	Imports:								
FEB. 26.—By the <i>Indramayo</i> —Singapore: W. L. Gough Co. 15,000 Heabler & Co. 11,500 Otto Isenstein & Co. 7,000 Malaysian Rubber Co. *14,000 47,500	MARCH 21.—By the <i>Vandalia</i> —Singapore: Malaysian Rubber Co. *8,000	Pounds.								
MARCH 2.—By the <i>Cymric</i> —Liverpool: A. T. Morse & Co. *11,000	GUTTA-JELUTONG.	India-rubber 9,413,594 \$10,332,444 Balata 55,063 23,329 Gutta-percha 35,408 16,269 Gutta-jelutong (Pontianak) 3,369,109 152,588								
MARCH 2.—By the <i>Mesaba</i> —London: General Rubber Co. *11,000 Robinson & Co. 7,000 *18,000	FEB. 21.—By the <i>Wyneric</i> —Singapore: Poel & Arnold 115,000 Heabler & Co. 155,000 W. L. Gough Co. 200,000 L. Littlejohn & Co. 150,000 George A. Alden & Co. 55,000 675,000	Total 12,873,174 \$10,524,630								
MARCH 2.—By the <i>Shimosa</i> —Singapore: Heabler & Co. 22,500 Otto Isenstein & Co. 22,500 George A. Alden & Co. 11,000 Poel & Arnold 11,000 74,000	FEB. 26.—By the <i>Indramayo</i> —Singapore: Heabler & Co. 1,000,000 Poel & Arnold 300,000 L. Littlejohn & Co. 300,000 W. L. Gough Co. 225,000 George A. Alden & Co. 110,000 W. E. Russell & Co. 55,000 1,990,000	Exports:								
EUROPE.										
EXPORTERS.										
Gruner & Co. 77,022 E. Pinto Alves & Co. 111,888 Adelbert H. Alden, Ltd. 24,650 J. Marques & Co. 24,140 R. O. Ahlers & Co. 59,844 Gordon & Co. 26,831 De Lagotellerie & Co. 4,930 R. Suarez & Co. 53,316 Scholz, Hartje & Co. 47,297 Pires Teixeira & Co. 5,100 Alves Braga Rubber Estates and Trading Co. 24,425	Fine. 4,449 Medium. 78,802 Coarse. 49,453 Caucho. 209,816 TOTAL. 150,794 Fine. 40,787 Medium. 95,856 Coarse. 24,457 Caucho. 311,894 TOTAL. 521,010									
Sundries 1,020 Itacoatiara direct 8,219 Manaos direct 541,374 Iquitos direct 107,578	4,590 170 48,845 7,600	1,200 6,175 75,188 46,596	2,720 16,941 257,196 132,642	680 8,670 1,141,753 294,425	5,280 24,420 381,618 22,208	24,457 27,241 107,920 1,294	172,440 194,435 182,210 32,178			
Total 1,119,634	91,349	340,073	565,228	2,116,284	1,540,151	325,343	831,917	400,144	3,097,555	5,213,839
PARA EXPORTS OF INDIA-RUBBER, JANUARY, 1910 (In KILOGRAMS).										
EUROPE.										
EXPORTERS.										
Gruner & Co. 77,022 E. Pinto Alves & Co. 111,888 Adelbert H. Alden, Ltd. 24,650 J. Marques & Co. 24,140 R. O. Ahlers & Co. 59,844 Gordon & Co. 26,831 De Lagotellerie & Co. 4,930 R. Suarez & Co. 53,316 Scholz, Hartje & Co. 47,297 Pires Teixeira & Co. 5,100 Alves Braga Rubber Estates and Trading Co. 24,425	Fine. 4,449 Medium. 78,802 Coarse. 49,453 Caucho. 209,816 TOTAL. 150,794 Fine. 40,787 Medium. 95,856 Coarse. 24,457 Caucho. 311,894 TOTAL. 521,010									
Sundries 1,020 Itacoatiara direct 8,219 Manaos direct 541,374 Iquitos direct 107,578	4,590 170 48,845 7,600	1,200 6,175 75,188 46,596	2,720 16,941 257,196 132,642	680 8,670 1,141,753 294,425	5,280 24,420 381,618 22,208	24,457 27,241 107,920 1,294	172,440 194,435 182,210 32,178			
Total 1,119,634	91,349	340,073	565,228	2,116,284	1,540,151	325,343	831,917	400,144	3,097,555	5,213,839
NEW YORK.										
EUROPE.										
Gruner & Co. 77,022 E. Pinto Alves & Co. 111,888 Adelbert H. Alden, Ltd. 24,650 J. Marques & Co. 24,140 R. O. Ahlers & Co. 59,844 Gordon & Co. 26,831 De Lagotellerie & Co. 4,930 R. Suarez & Co. 53,316 Scholz, Hartje & Co. 47,297 Pires Teixeira & Co. 5,100 Alves Braga Rubber Estates and Trading Co. 24,425	Fine. 4,449 Medium. 78,802 Coarse. 49,453 Caucho. 209,816 TOTAL. 150,794 Fine. 40,787 Medium. 95,856 Coarse. 24,457 Caucho. 311,894 TOTAL. 521,010									
Sundries 1,020 Itacoatiara direct 8,219 Manaos direct 541,374 Iquitos direct 107,578	4,590 170 48,845 7,600	1,200 6,175 75,188 46,596	2,720 16,941 257,196 132,642	680 8,670 1,141,753 294,425	5,280 24,420 381,618 22,208	24,457 27,241 107,920 1,294	172,440 194,435 182,210 32,178			
Total 1,119,634	91,349	340,073	565,228	2,116,284	1,540,151	325,343	831,917	400,144	3,097,555	5,213,839
BOSTON ARRIVALS.										
EUROPE.										
FEB. 3.—By the <i>Ivernia</i> —Liverpool: Poel & Arnold (Africans) 56,000	POUNDS.									
FEB. 9.—By the <i>Belgravia</i> —Hamburg: J. E. O'Dell (Africans) 4,500										
FEB. 15.—By the <i>Winifreda</i> —Liverpool: Rubber Trading Co. (Africans) 35,000										
FEB. 17.—By the <i>Sachem</i> —Liverpool: Poel & Arnold (Africans) 16,500										
FEB. 14.—By the <i>Wyneric</i> —Singapore: Various importers (Jelutong, etc.) 760,000										
FEB. 21.—By the <i>Indramayo</i> —Singapore: Various importers (Jelutong, etc.) 725,000										

PARA EXPORTS OF INDIA-RUBBER, JANUARY, 1910 (In KILOGRAMS).



Vol. 42.

APRIL 1, 1910.

No. 1.

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Antwerp.

At the monthly inscription on March 17 selling was characterized by a heavy advance in prices, but as contrasted with the results of previous sales, it was the Congo varieties this time which showed the strongest proportional advance. In fact, the rise made by them to-day is figured at 3.07 francs, or 22.87 per cent., while plantation caoutchouc scored an average rise of 3.63 francs, or 14.95 per cent. The market was very buoyant throughout the day and everything was snapped up. The offering comprised 207,642 kilograms of Congo sorts and 51,121 kilograms of other sorts, including a number of lots of plantation sorts. Only 95 kilograms remained unsold. Among the prices realized were—

Upper Congo, Lomami.....	francs 21.00
Congo, Kasai, block.....	20.92½
Upper Congo, ordinary.....	19.00
Congo, Wamba Kindinga.....	20.52½
Upper Congo, Equateur.....	20.92½
Congo, Kantanga.....	20.67½
Straits, Crepe No. 1.....	29.22=30.05
Sumatra, Smoked sheet.....	29.20=29.40
Java, Pamaneokan.....	18.02=18.50

Quotations for guayule are 9@9.50 francs per kilogram [=about 78.8@83.16 cents per pound].

L. & W. Van de Velde report: "European buyers have operated largely at these sales, America showing less disposition to follow the violent movement. Business by private contract in medium grades has been important of late, and stocks in second hands appear to be small at present. The next sales here will be held April 28, for which about 450 tons are declared. The stock in first hands is about 445 tons."

RUBBER ARRIVALS FROM THE CONGO.

FEBRUARY 1.—By the steamer *Leopoldville*:

Bunge & Co.....	(Société Générale Africaine) <i>kilos</i> 39,500
Do.....	(Comptoir Commercial Congolais) 41,300
Do.....	(Société Abir) 3,400
Do.....	(Société Anversoise) 2,200
Do.....	(Chemins de fer Grands Lacs) 3,700
Do.....	(Comité Special Katanga) 2,400
Société Coloniale Anversoise.....	(Belge du Haut Congo) 10,300
Do.....	(Cie. du Kasai) 60,700
Do.....	2,900
Société Equatoriale Congolaise.....	(Cie. du Lomami) 16,700
Société Générale de Commerce.....	(Alimaienne) 450
L. & W. Van de Velde.....	1,300
Cassart & Henrion.....	3,000
	700

238,550

FEBRUARY 21.—By the steamer *Bruxellesville*:

Bunge & Co.....	(Société Générale Africaine) <i>kilos</i> 125,500
Do.....	(Société Abir) 2,600
Do.....	(Comptoir Commercial Congolais) 9,000
Do.....	(Comité Special Katanga) 6,300
Do.....	(Chemins de fer Grands Lacs) 8,900
Société Coloniale Anversoise.....	(Belge du Haut Congo) 1,700
Do.....	(Cie. du Lomami) 18,100
L. & W. Van de Velde.....	112,000
Charles Dethier.....	2,500
Société Générale de Commerce.....	(Alimaienne) 1,500

288,100

MARCH 14.—By the steamer *Albertville*:

Bunge & Co.....	(Société Générale Africaine) <i>kilos</i> 93,700
Do.....	(Chemins de fer Grands Lacs) 4,400
Do.....	(Société Abir) 1,400
Do.....	(Comité Special Katanga) 1,400
Do.....	(Comptoir Commercial Congolais) 2,500
Do.....	(Cie. du Kasai) 72,000
Société Coloniale Anversoise.....	(Belge du Haut Congo) 200
L. & W. Van de Velde.....	3,000

178,600

RUBBER STATISTICS FOR FEBRUARY.

DETAILS.	1910.	1909.	1908.	1907.	1906.
Stocks, Jan. 31..... <i>kilos</i>	482,162	597,777	1,260,009	618,650	618,695
Arrivals in February.....	514,624	300,011	277,443	598,332	434,890
Congo sorts.....	454,116	184,360	255,000	549,863	338,905
Other sorts.....	60,508	115,651	22,443	48,499	75,994
Aggregating.....	996,786	897,788	1,537,452	1,216,982	933,594
Sales in February.....	480,252	566,355	630,348	613,121	318,906
Stocks, February 28.....	516,534	311,433	907,104	603,861	614,688
Arrivals since January 1.....	776,491	583,966	825,411	916,024	1,019,928
Congo sorts.....	656,663	370,549	759,451	792,669	753,518
Other sorts.....	119,828	213,417	65,960	123,355	266,410
Sales since January 1.....	801,469	848,268	925,201	970,347	1,140,427

Liverpool.

WILLIAM WRIGHT & Co. report [March 1]:

Fine Pard.—The firmness and activity of the market continues. Prices have further advanced 11d. to 1s. per pound, and at present there is no indication of any serious decline. Receipts, while not up to last year, are fairly ample for normal times, but the extraordinary American demand—another steamer took the record quantity of 14,300 tons from Brazil and about 300 tons again shipped from here—points, we are afraid, to a continuation of extremely high prices right through this crop. European manufacturers are buying sparingly, but we are afraid they will be forced to recognize that this is no mere temporary spurt.

Para.

R. O. AHLERS & Co. report [March 16]:

Owing to unusually low water on the upper tributaries of the Amazon—for this time of the year—arrivals remained far below expectations, and the wild rush of "shorts" drove the market up to startling prices. Since yesterday, however, buyers withdrew, partly owing to the impossibility to ship any more by today's steamer to New York or tomorrow's steamer to Europe. Supplies since our last report consist of 2,999 tons including Upriver and caucho balls. Receipts so far in March were 3,681 tons, thus making the total receipts 30,270 tons this year, against 30,870 tons same time 1909, and 28,250 tons same time 1908.

New York.

In regard to the financial situation, Albert B. Beers (broker in crude rubber and commercial paper, No. 68 William street, New York) advises as follows: "During March there has been a fairly good demand for commercial paper, mostly from out of town banks, and the ruling rates have been 5@5½ per cent. for the best rubber names, and 6 per cent. for those not so well known."

WILLIAM T. BAIRD, President

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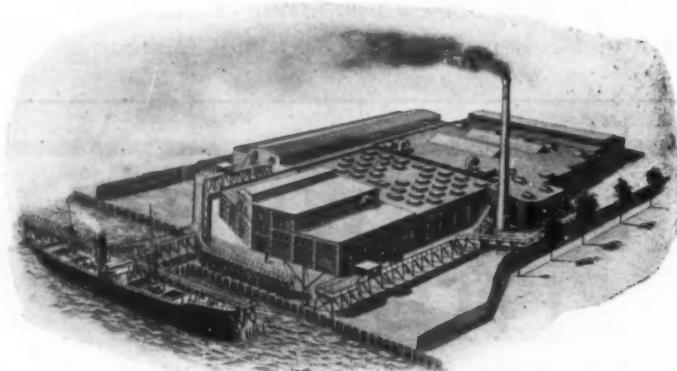
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FROM BROOKLYN, N. Y.

A Process Rubber Co. writes, dating 26th August, 1909:

"According to your advertisement in the India Rubber World we would like you to send us the price of 100,000 Heven seeds and for 10,000 Manicoba seeds (Bahia), what is the best time to order and how long will the shipment take to Mexico when ordered by cable?"

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A Merchant wired on the 21st Sept., 1909:

"Have cabled you Shanghai Bank, Colombo, —— sterling; ship me one hundred thousand guaranteed Parasexes, San Francisco, via Pacific mail steamer."

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A Planting Company, asking samples of Castilloa Elastica and Heven stumps, writes under date 7th Sept., 1909: "We may be pleased to entertain several thousand trees next season. Those we are ordering. We would like to have to represent a fair average of what you would ship in filling a large order."

SECRETARY OF AN AGRICULTURAL DEPARTMENT, MAURITIUS.

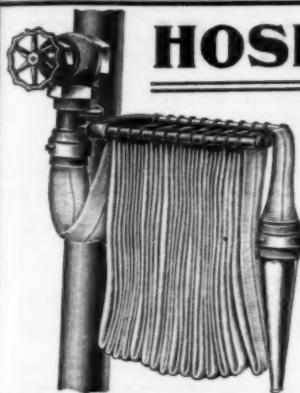
In ordering a sample supply of *Manihot Dichotoma*, *Plauhyenia* and *Heptaphylla*, writes, dating 30th August, 1909: "A serious order may follow."

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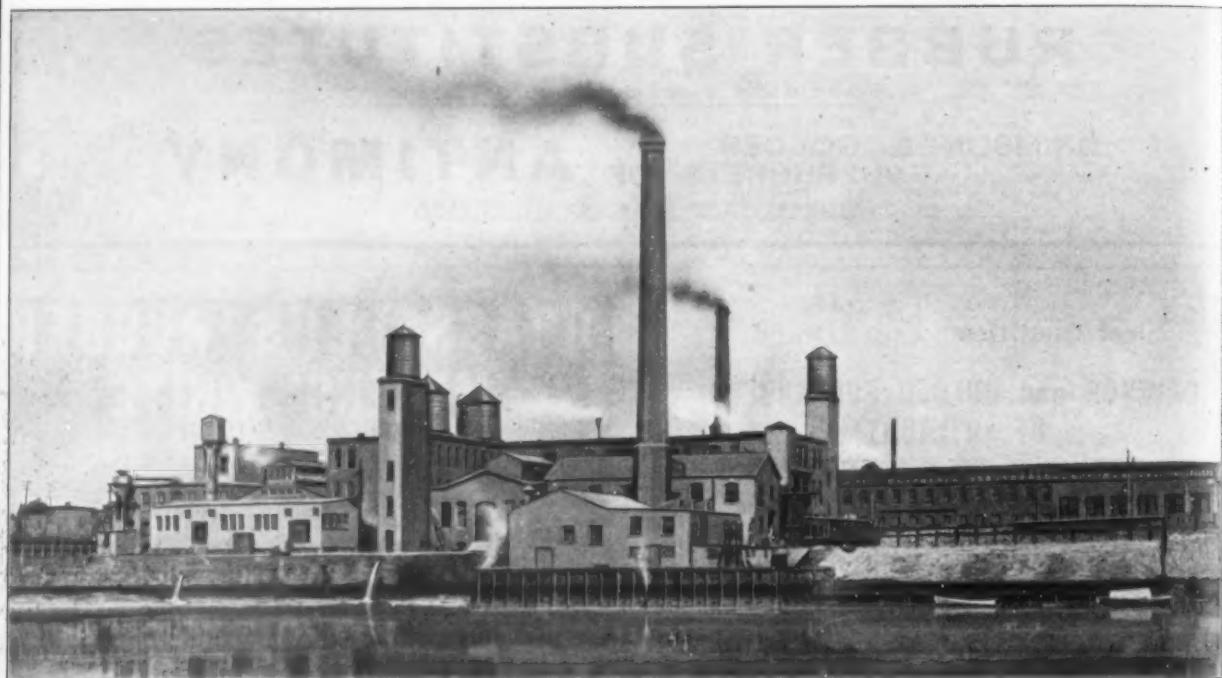
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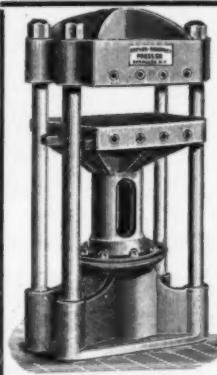
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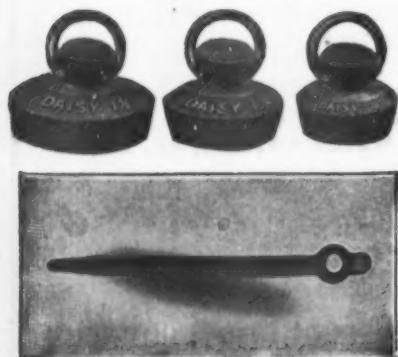
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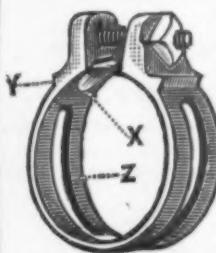
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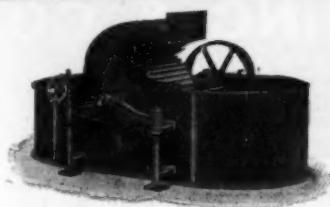
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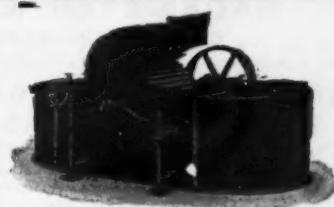
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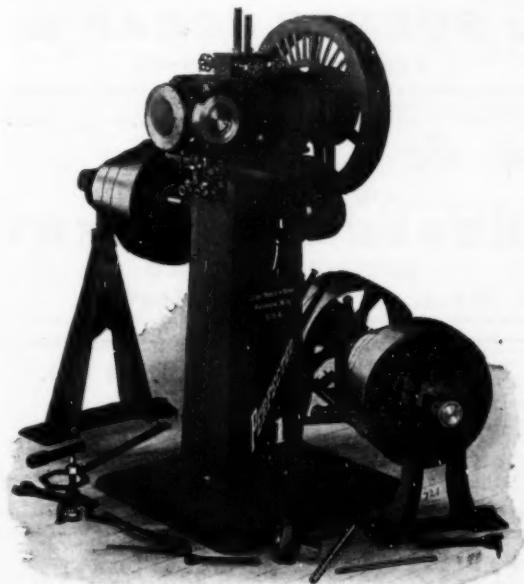
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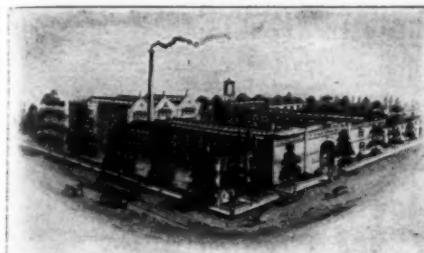
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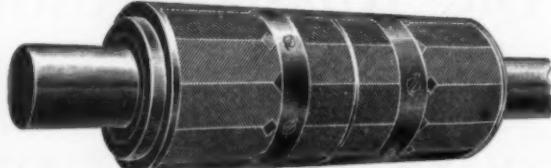


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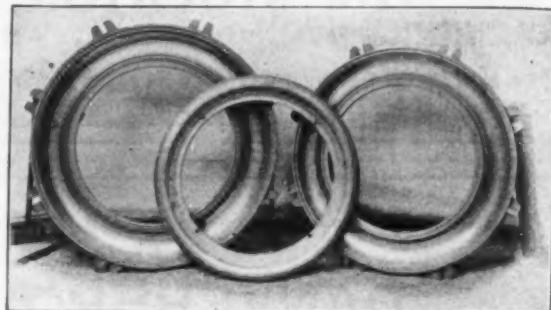
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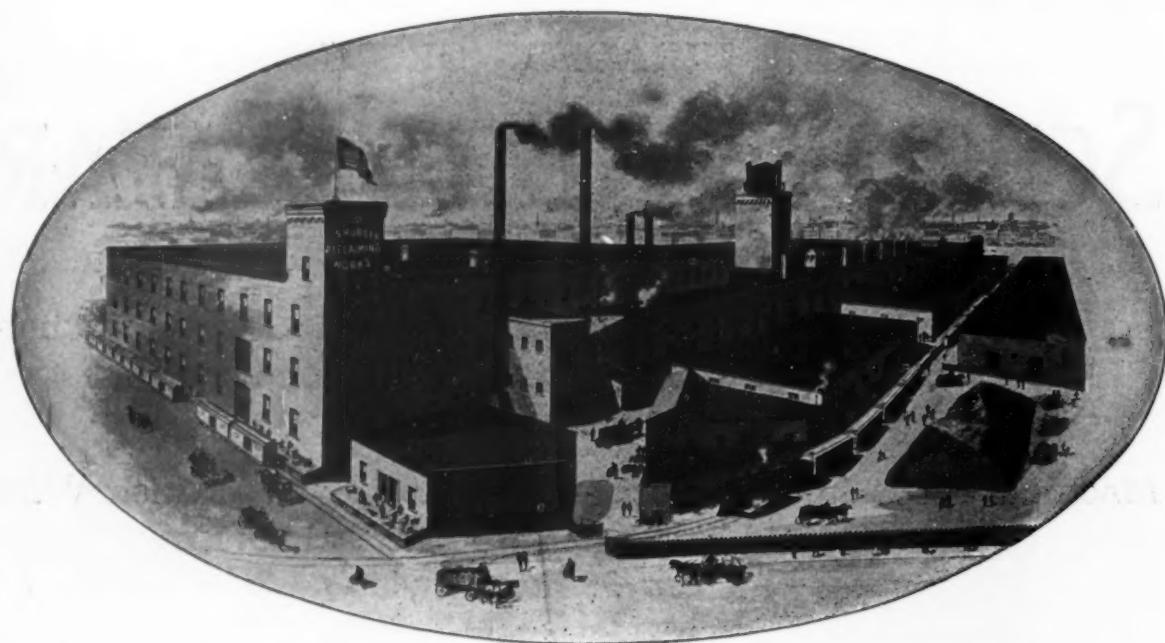
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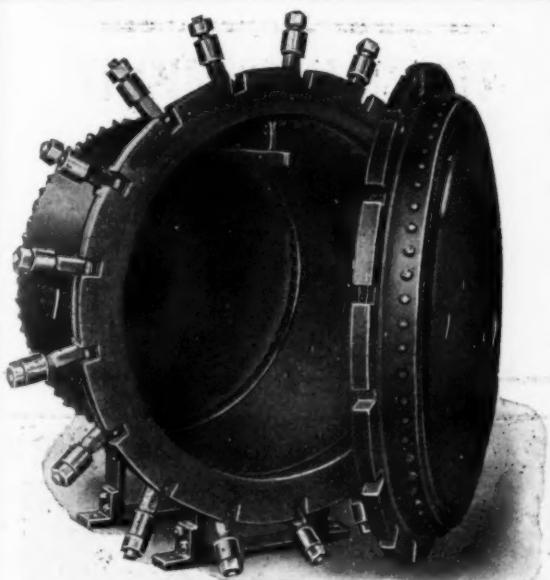
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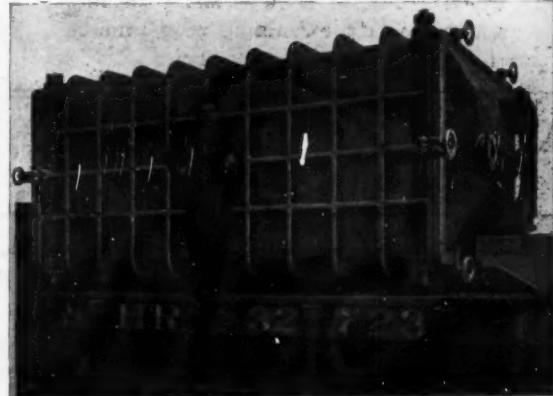
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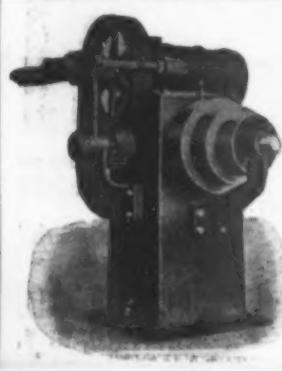
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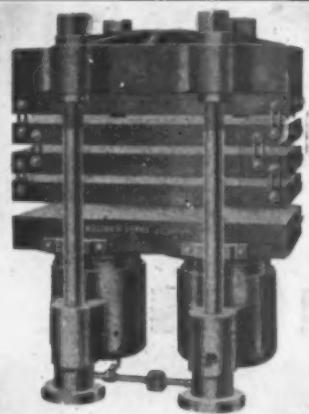
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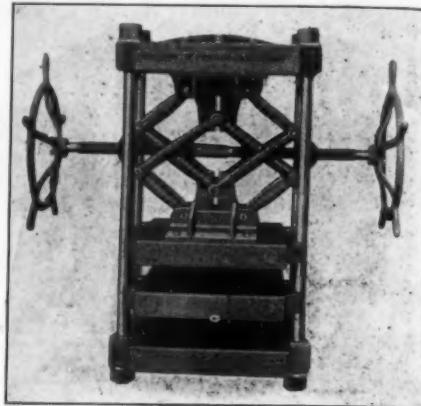
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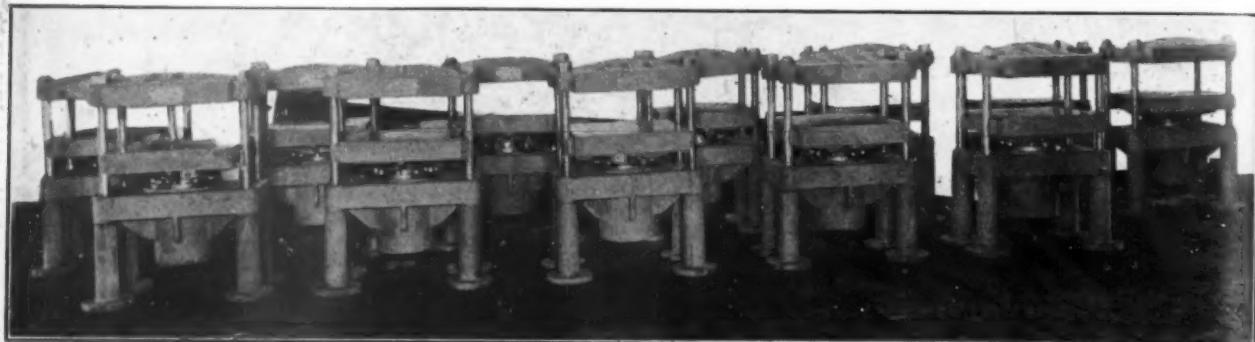
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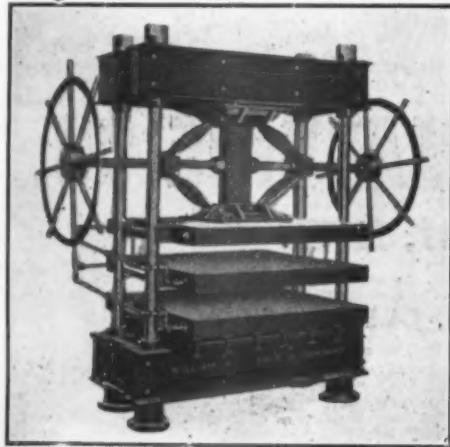


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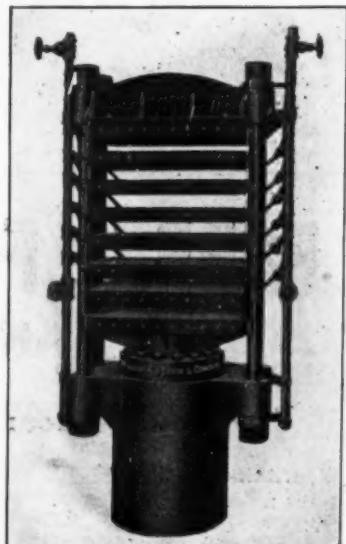


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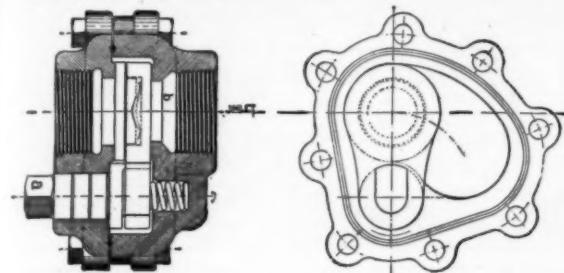
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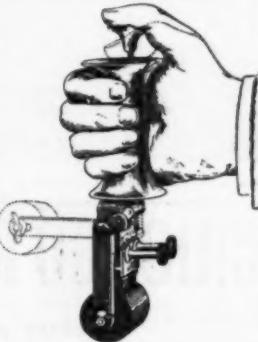
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A TEXT BOOK OF RUBBER MANUFACTURE

By HENRY C. PEARSON,
Editor of *The India Rubber World*

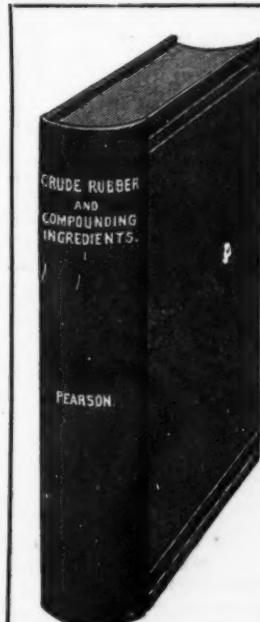
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- XIV.—Physical Tests and Methods of Analysis of Crude Rubber and Vulcanized Rubber.
- XV.—Gutta-percha.

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Davidson Rubber Co., Boston.

Davol Rubber Co., Providence, R. I.

Essex Rubber Co., Trenton, N. J.

Faultless Rubber Co., Akron, O.

Hodgman Rubber Co., New York.

Massachusetts Chemical Co., Walpole, Mass.

Fittings.

Mattson Rubber Co., Lodi, N. J.

Morgan & Wright, Detroit, Mich.

Plymouth Rubber Co., Stoughton, Mass.

Tyler Rubber Co., Andover, Mass.

Fittings.

Boston Belting Co., Boston—New York.

Boston Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Continental Rubber Works, Erie, Pa.

B. F. Goodrich Co., Akron, O.

Gutta Percha & Rubber Mfg. Co., N. Y.

The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.

Home Rubber Co., Trenton, N. J.

Manhattan Rubber Mfg. Co., New York.

N. J. Car Spring & Rubber Co., Jersey City.

Fittings.

(See Mechanical Rubber Goods.)

Jenkins Bros., New York.

Mattson Rubber Co., Lodi, N. J.

New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—Pittsburgh.
Voorhees Rubber Mfg. Co., Jersey City.

Packing.

(See Mechanical Rubber Goods.)

Jenkins Bros., New York.

Mattson Rubber Co., Lodi, N. J.

Paper Machine Rollers.

Boston Belting Co., Boston—New York.

B. F. Goodrich Co., Akron, O.

Gutta Percha & Rubber Mfg. Co., N. Y.

Manhattan Rubber Mfg. Co., New York.

New York Belting & Packing Co., N. Y.

Republic Rubber Mfg. Co., New York.

Revere Rubber Co., Youngstown, O.

Voorhees Rubber Mfg. Co., Jersey City.

Plumbers' Supplies.

Canadian Rubber Co. of Montreal.

H. O. Canfield Co., Bridgeport, Ct.

Continental Rubber Works, Erie, Pa.

B. F. Goodrich Co., Akron, O.

The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.

Manhattan Rubber Mfg. Co., New York.

Mattson Rubber Co., Lodi, N. J.

Republic Rubber Co., Youngstown, O.

Voorhees Rubber Mfg. Co., Jersey City.

Western Rubber Works, Goshen, Ind.

Pump Valves.

(See Mechanical Rubber Goods.)

Jenkins Bros., New York.

Mattson Rubber Co., Lodi, N. J.

Massachusetts Chemical Co., Walpole, Mass.

Schacht Rubber Co., Huntington, Ind.

Rock Drill Couplings.

P. R. Howell Brass Works, Phila., Pa.

Rolls—Rubber Covered.

Acme Rubber Mfg. Co., Trenton, N. J.

Boston Belting Co., Boston.

Canadian Rubber Co. of Montreal.

Cincinnati R. M. Co., Cincinnati, O.

Continental Rubber Works, Erie, Pa.

B. F. Goodrich Co., Akron, O.

The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.

Home Rubber Co., Trenton, N. J.

Manhattan Rubber Mfg. Co., New York.

Mattson Rubber Co., Lodi, N. J.

Mechanical Rubber Co., Chicago.

N. J. Car Spring & Rubber Co., Jersey City.

Lawn-Hose Supporters.

W. D. Allen Mfg. Co., Chicago.

C. J. Bailey & Co., Boston.

Lawn Sprinklers.

W. D. Allen Mfg. Co., Chicago.

Boston Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Keystone R. M. Co., Erie, Pa.

Manhattan Rubber Mfg. Co., New York.

National India Rubber Co., Bristol, R. I.

New York Belting & Packing Co., N. Y.

Peerless Rubber Mfg. Co., New York.

Revere Rubber Co., Boston—New York.

Voorhees Rubber Mfg. Co., Jersey City.

Mallets (Rubber).

Boston Belting Co., Boston—New York.

Continental Rubber Works, Erie, Pa.

B. F. Goodrich Co., Akron, O.

The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.

Manhattan Rubber Mfg. Co., New York.

Continental Rubber Works, Erie, Pa.

B. F. Goodrich Co., Akron, O.

The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.

Massachusetts Chemical Co., Walpole, Mass.

Mattson Rubber Co., Lodi, N. J.

National India Rubber Co., Bristol, R. I.

N. J. Car Spring & Rubber Co., Jersey City.

Mould Work.

(See Mechanical Rubber Goods.)

Ajax-Griek Rubber Co., Trenton.

Boston Belting Co., Boston—New York.

Boston Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Canton Rubber Co., Canton, O.

Cincinnati R. M. Co., Cincinnati, O.

Davidson Rubber Co., Boston.

Eureka Fire Hose Mfg. Co., New York.

Revere Rubber Co., Boston.

Voorhees Rubber Mfg. Co., Jersey City.

Oil Well Supplies.

Boston Belting Co., Boston—New York.

Boston Woven Hose & Rubber Co.

Continental Rubber Works, Erie, Pa.

Eureka Fire Hose Mfg. Co., New York.

Revere Rubber Co., Boston.

Voorhees Rubber Mfg. Co., Jersey City.

Oil Well Supplies.

Boston Belting Co., Boston—New York.

Boston Woven Hose & Rubber Co.

Continental Rubber Works, Erie, Pa.

Eureka Fire Hose Mfg. Co., New York.

Revere Rubber Co., Boston.

Voorhees Rubber

RUBBER BUYERS' DIRECTORY—Continued.

Stair Treads—Continued.

National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.
Thread.

B. F. Goodrich Co., Akron, O.
Mechanical Fabric Co., Providence, R. I.
Revere Rubber Co., Boston-New York.
Tiling.

American Hard Rubber Co., N. Y.
Canadian Rubber Co. of Montreal, Ltd.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Voorhees Rubber Mfg. Co., Jersey City.
Tubing.

(See Mechanical Rubber Goods.)
American Hard Rubber Co., New York.
Boston W. H. & R. Co., Boston.
Cincinnati R. M. Co., Cincinnati, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
Mattson Rubber Co., Lodi, N. J.
Plymouth Rubber Co., Stoughton, Mass.
Rubber Products Co., Barberston, O.
Star Rubber Co., Akron, O.
Tyer Rubber Co., Andover, Mass.
Voorhees Rub. Mfg. Co., Jersey City.
Valve Balls.

Boston Belting Co., Boston.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Jenkins Bros., New York.
Manhattan Rubber Mfg. Co., New York.
Mattson Rubber Co., Lodi, N. J.
Mechanical Rubber Co., Chicago.
National India Rubber Co., Bristol, R. I.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Valve Discs.

American Hard Rubber Co., New York.
Boston Belting Co., Boston-New York.
Cincinnati R. M. Co., Cincinnati, O.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Jenkins Bros., N. Y.
Manhattan Rubber Mfg. Co., New York.
Mattson Rubber Co., Lodi, N. J.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Western Rubber Works, Goshen, Ind.
Valves.

(See Mechanical Rubber Goods.)
Maxx Rubber Co., Trenton, N. J.
Jenkins Bros., New York-Chicago.
Mattson Rubber Co., Lodi, N. J.
Schacht Rubber Co., Huntington, Ind.
Vulcanite Emery Wheels.

Manhattan Rubber Mfg. Co., Passaic, N. J.
New York Belting & Packing Co., Ltd., New York.

Wringer Rolls.
Canadian Rubber Co., of Montreal.
Cincinnati R. M. Co., Cincinnati, O.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Mattson Rubber Co., Lodi, N. J.
New York Belting & Packing Co., N. Y.
Republic Rubber Co., Youngstown, O.

DRUGGISTS' AND STATIONERS' SUNDRIES.

Atomizers. Nipples.
Bandages. Syringes.
Bulbs. Water Bottles.
Druggists' Sundries, Generally.
Ajax-Grib Rubber Co., Trenton, N. J.
American Hard Rubber Co., New York.
Atlantic R. Co., Hyde Park, Mass.

C. J. Bailey & Co., Boston.
Boston Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.
Canton Rubber Co., Canton, O.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Luzerne Rubber Co., Trenton, N. J.
Mass. Chemical Co., Walpole, Mass.
National India Rubber Co., Bristol, R. I.
Parker, Stearns & Co., N. Y.
Pirelli & Co., Milan, Italy.
Rubber Products Co., Barberston, O.
Seamless Rubber Co., New Haven, Ct.
Tyer Rubber Co., Andover, Mass.

Stopples (Metal).
A. Schrader's Son, Inc., N. Y.
Stopples (Rubber).

Continental R. Works, Erie, Pa.
Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.
Tyer Rubber Co., Andover, Mass.

Balls, Dolls and Toys.
New York Rubber Co., New York.
Combination Fountain Syringe and Hot Water Bottle Fixtures.

A. Schrader's Son, Inc., N. Y.
Combs.

American Hard Rubber Co., New York.

Elastic Bands.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.

Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York-Boston.

Tyer Rubber Co., Andover, Mass.

Electrician Gloves.

Star Rubber Co., Akron, O.

Erasing Rubbers.

B. F. Goodrich Co., Akron, O.

Finger Cots.

Canton Rubber Co., Canton, O.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.

Davol Rubber Co., Providence.

Faultless Rubber Mfg. Co., Akron, O.

B. F. Goodrich Co., Akron, O.

The Rubber Products Co., Barberston, O.

Star Rubber Co., Akron, O.

Gloves.

Canadian Rubber Co. of Montreal.

Canton Rubber Co., Canton, O.

Davol Rubber Co., Providence, R. I.

Faultless Rubber Co., Akron, O.

National India Rubber Co., Bristol, R. I.

Rubber Products Co., Barberston, O.

Star Rubber Co., Akron, O.

Hard Rubber Goods.

American Hard Rubber Co., New York.

Canadian Rubber Co. of Montreal.

Davidson Rubber Co., Boston.

H. O. Canfield Co., Bridgeport, Ct.

Davol Rubber Co., Providence, R. I.

Luzerne Rubber Co., Trenton, N. J.

Stokes Rubber Co., Joseph, Trenton, N. J.

Tyer Rubber Co., Andover, Mass.

Hospital Sheetings.

Atlantic R. Co., Hyde Park, Mass.

Canton Rubber Co., Canton, O.

Davol Rubber Co., Providence, R. I.

B. F. Goodrich Co., Akron, O.

Hodgman Rubber Co., New York.

National India Rubber Co., Bristol, R. I.

Plymouth Rubber Co., Stoughton, Mass.

Tyer Rubber Co., Andover, Mass.

Hot Water Bottle Stopples.

A. Schrader's Son, Inc., N. Y.

Ice Bags and Ice Caps.

Canton Rubber Co., Canton, O.

Cleveland Rubber Co., Cleveland, O.

Davidson Rubber Co., Boston.

Davol Rubber Co., Providence.

Faultless Rubber Co., Akron, O.

B. F. Goodrich Co., Akron, O.

National India Rubber Co., Bristol, R. I.

The Rubber Products Co., Barberston, O.

Star Rubber Co., Akron, O.

Tyer Rubber Co., Andover, Mass.

Life Preservers.

Davol Rubber Co., Providence.

Hodgman Rubber Co., New York.

National India Rubber Co., Bristol, R. I.

Shower Bath Sprinklers.

Davol Rubber Co., Providence.

A. Schrader's Son, Inc., N. Y.

Sponges (Rubber).

Faultless Rubber Co., Ashland, O.

N. T. Tire Rubber Sponge Co., Chicago.

Stationers' Sundries.

American Hard Rubber Co., New York.

Boston Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Cincinnati Rubber Mfg. Co., Cincinnati, O.

Cleveland Rubber Co., Cleveland, O.

Davol Rubber Co., Boston.

Faultless Rubber Co., Akron, O.

Hodgman Rubber Co., New York.

Luzerne Rubber Co., Trenton, N. J.

Mass. Chemical Co., Walpole, Mass.

National India Rubber Co., Bristol, R. I.

Parker, Stearns & Co., N. Y.

Tyler Rubber Co., Andover, Mass.

Stopples (Metal).

A. Schrader's Son, Inc., N. Y.

Stopples (Rubber).

Continental R. Works, Erie, Pa.

Cleveland Rubber Co., Cleveland, O.

Davol Rubber Co., Providence, R. I.

B. F. Goodrich Co., Akron, O.

Hodgman Rubber Co., New York.

National India Rubber Co., Bristol, R. I.

Tyler Rubber Co., Andover, Mass.

Throat Bags.

Cleveland Rubber Co., Cleveland, O.

Davol Rubber Co., Boston.

Faultless Rubber Co., Akron, O.

Hodgman Rubber Co., New York.

New York Belting & Packing Co., N. Y.

Tyler Rubber Co., Andover, Mass.

Tobacco Pouches.

Canadian Rubber Co. of Montreal.

Davol Rubber Co., Boston.

Faultless Rubber Co., Akron, O.

B. F. Goodrich Co., Akron, O.

The Rubber Products Co., Barberston, O.

Tyler Rubber Co., Andover, Mass.

Tobacco Pouches.

Canadian Rubber Co. of Montreal.

Davol Rubber Co., Boston.

Faultless Rubber Co., Akron, O.

B. F. Goodrich Co., Akron, O.

Hodgman Rubber Co., New York.

National India Rubber Co., Providence.

Rubber Products Co., Barberston, O.

Tyler Rubber Co., Andover, Mass.

Air Mattresses.

American Hard Rubber Co., New York.

Cleveland Rubber Co., Cleveland, O.

Davol Rubber Co., Providence, R. I.

B. F. Goodrich Co., Akron, O.

Hodgman Rubber Co., New York.

New York Rubber Co., New York.

Tyler Rubber Co., Andover, Mass.

Bathing Caps.

Atlantic R. Co., Hyde Park, Mass.

Davol Rubber Co., Providence, R. I.

B. F. Goodrich Co., Akron, O.

Rubber Products Co., Barberston, O.

Bellows Cloths.

Atlantic R. Co., Hyde Park, Mass.

Boston Rubber Co., Boston.

Cleveland Rubber Co., Cleveland, O.

Hodgman Rubber Co., New York.

Tyler Rubber Co., Andover, Mass.

Calendering.

Plymouth Rubber Co., Stoughton, Mass.

Carriage Ducks and Drills.

Acme Rubber Mfg. Co., Trenton, N. J.

Cleveland Rubber Co., Cleveland, O.

Empire Rubber Mfg. Co., Trenton, N. J.

Gutta Percha & Rubber Mfg. Co., Toronto.

National India Rubber Co., Bristol, R. I.

Pirelli & Co., Milan, Italy.

Cranavette Co., Ltd.

Diving Apparatus.

A. Schrader's Son, Inc., New York.

Hodgman Rubber Co., New York.

Horse Cvers.

Hodgman Rubber Co., New York.

National India Rubber Co., Bristol, R. I.

Leggings.

Cleveland Rubber Co., Cleveland, O.

Hodgman Rubber Co., New York.

National India Rubber Co., Bristol, R. I.

Seamless Rubber Co., New Haven, Ct.

Tyler Rubber Co., Andover, Mass.

Shoe Trees.

Acme Rubber Mfg. Co., Trenton, N. J.

Boston Belting Co., Boston.

Boston Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Cleveland Rubber Co., Cleveland, O.

B. F. Goodrich Co., Akron, O.

Home Rubber Co., Trenton, N. J.

Massachusetts Chemical Co., Boston.

Mechanical Rubber Co., Chicago.

National India Rubber Co., Bristol, R. I.

Revere Rubber Co., Boston-New York.

American Hard Rubber Co., New York.

Canadian Rubber Co. of Montreal.

Luzerne Rubber Co., Trenton, N. J.

Joseph Stokes Rubber Co., Trenton, N. J.

Mackintoshes.
(See Clothing.)

Proofing.

Canadian Rubber Co. of Montreal.

Plymouth Rubber Co., Stoughton, Mass.

Rain Coats.

Cravette Co., Ltd.

Rubber Coated Cloths.

Mechanical Fabric Co., Providence, R. I.

RUBBER FOOTWEAR.

Boots and Shoes.

American Rubber Co., Boston.

Boston Rubber Shoe Co., Boston.

Canadian Rubber Co. of Montreal.

L. Candee & Co., New Haven, Conn.

B. F. Goodrich Co., Akron, O.

Gutta Percha & Rubber Mfg. Co. of Toronto.

Hood Rubber Co., Boston.

Lycoming Rubber Co., Williamsport, Pa.

Meyer Rubber Co., New York.

National India Rubber Co., Boston.

United States Rubber Co., New York.

Wales-Goodyear Rubber Co., Boston.

Woonsocket Rubber Co., Providence.

Buckles.

Crane Buckle Co., Boston.

Footwear Markers.

Frank Venn, Malden, Mass.

Heels and Soles.

Atlantic R. Co., Hyde Park, Mass.

Boston Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Kessee Rubber Co., Trenton, N. J.

Foster Rubber Co., Boston.

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

National India Rubber Co., Providence.

United States Rubber Co., New York.

Wading Pants.

Canadian Rubber Co. of Montreal.

Hodgman Rubber Co., New York.

DENTAL AND STAMP RUBBER.

Dental Gum.

American Hard Rubber Co., New York.

Cleveland Rubber Co., Cleveland, O.

Tyler Rubber Co., Andover, Mass.

Rubber Dam.

Cleveland Rubber Co., Cleveland, O.

Davidson Rubber Co., Boston.

Davol Rubber Co., Providence, R. I.

B. F. Goodrich Co., Akron, O.

Hodgman Rubber Co., New York.

Tyler Rubber Co., Andover, Mass.

Stamp Gum.

B. F. Goodrich Co., Akron, O.

Mattson Rubber Co., Lodi, N. J.

Mechanical Rubber Co., Chicago, Ill.

RUBBER BUYERS' DIRECTORY—Continued.

Insulating Compounds.
Canadian Rubber Co. of Montreal.
Gutta Percha & Rubber Mfg. Co., To-
ronto.
Massachusetts Chemical Co., Boston.

Insulated Wire and Cables.
Acme Rubber Mfg. Co., Trenton, N. J.
The Indiana Rubber and Insulated Wire
Co., Jonesboro, Ind.
Kerite Ins. Wire & Cable Co., N. Y.
National India Rubber Co., Providence.

Insulated Wire Waxes.

American Wax Co., Boston.

Splicing Compounds.

Boston W. H. & R. Co., Boston.
Home Rubber Co., Trenton, N. J.
Massachusetts Chemical Co., Walpole,
Mass.

SPORTING GOODS.

Foot Balls.

Canadian Rubber Co. of Montreal.

Cleveland Rubber Co., Cleveland, O.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Golf Balls.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Davidson Rubber Co., Boston.
Essex Rubber Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co.
of Toronto, Ltd.

Sporting Goods.

Canadian Rubber Co. of Montreal.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Tyer Rubber Co., Andover, Mass.

Striking Bags.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Rubber Products Co., Barberton, O.

Submarine Outfits.

Hodgman Rubber Co., New York.
A. Schrader's Sons, Inc., New York.

MISCELLANEOUS.

Boxes (Wood).

Henry H. Shelp & Co., Philadelphia.

Brass Fittings.

A. Schrader's Son, New York.

Cement (Rubber).

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Manhattan Rubber Mfg. Co., New York.
Massachusetts Chemical Co., Walpole,
Mass.

N. J. Car Spring & Rubber Co., Jersey
City, N. J.
New York Belting & Packing Co., N. Y.

Chemists.

Chute, H. O., New York.
Maywald, F. J., New York.
Stephen P. Sharples, Boston, Mass.

Consulting Engineers.

Akron Rubber Engineering Co., Akron, O.

Rubber Journals.

Gummi-Zeitung, Dresden, Germany.
L'Agriculture des Pays Chauds, France.

Rubber Tree Seeds.

J. P. William & Bros., Heneratgoda,
Ceylon.

Tapping Tools.

G. Van den Kerckhove, Brussels, Belgium.

Valves for Air Goods.

A. Schrader's Son, Inc., New York.

MACHINERY AND SUPPLIES FOR RUBBER MILLS.

RUBBER MACHINERY.

Acid Tanks.

Birmingham Iron Foundry, Derby, Conn.
Farrel F. & M. Co., Ansonia, Conn.

Air Compressors.

Williams F. & M. Co., Akron.

Band Cutting Machines.

A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Conn.

Belt Folding Machines.

Birmingham Iron Foundry, Derby, Conn.
Farrel F. & M. Co., Ansonia, Conn.

Branding Dies.

Horace E. Fine, Trenton, N. J.
E. A. Hulslander, Trenton.

Belt Slitters.

Farrel F. & M. Co., Ansonia, Conn.

Belt Stretchers.

Birmingham Iron Foundry, Derby, Conn.
Farrel F. & M. Co., Ansonia, Conn.
Hoggs & Pettis Mfg. Co., New Haven.

Boilers.

William H. Thropp, Trenton, N. J.
John E. Thropp & Sons Co., Trenton, N. J.

Braiders.

New England Butt Co., Providence, R. I.
Calenders.

Birmingham Iron Foundry, Derby, Conn.
David Bridge & Co., Castleton, Man-
chester, Eng.

Farrel F. & M. Co., Ansonia, Conn.

Textile-Finishing Machinery Co., Prov-
idence, R. I.

Castings.

A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Conn.
Farrel F. & M. Co., Ansonia, Conn.
McFarland Fdry. & Mach. Co., Trenton,
N. J.

Williams F. & M. Co., Akron.

Chucks (Lathe).

Hoggs & Pettis Mfg. Co., New Haven.

Churns.

American Tool & Machine Co., Boston.

Cloth Dryers.

Farrel F. & M. Co., Ansonia, Conn.

Clutches.

Farrel F. & M. Co., Ansonia, Conn.

Williams F. & M. Co., Akron.

Cotton Goods.

Sheetings, Drills, Yarns, Fabrics.

Bottom Yarn Co., New York.

Crackers.

Birmingham Iron Foundry, Derby, Conn.

Farrel F. & M. Co., Ansonia, Conn.

Devulcanizers.

Biggs Boiler Works Co., Akron, O.

Birmingham Iron Foundry, Derby, Conn.

Edred W. Clark, Hartford, Conn.

Farrel F. & M. Co., Ansonia, Conn.

John E. Thropp & Sons Co., Trenton, N. J.
William R. Thropp, Trenton, N. J.

Dies.

Horace E. Fine, Trenton, N. J.

Hoggs & Pettis Mfg. Co., New Haven.

Phila. Cons. Die Co., Phila., Pa.

Taplin, Rice-Clerkin Co., Akron, O.

Williams F. & M. Co., Akron.

Doubling Machines.

American Tool & Machine Co., Boston.

Farrel F. & M. Co., Ansonia, Conn.

Drying Machines.

Buffalo Foundry & Machine Co., Buffalo,
N. Y.

David Bridge & Co., Castleton, Man-
chester, Eng.

Birmingham Iron Foundry, Derby, Conn.

Joseph P. Devine, Buffalo, N. Y.

Farrel F. & M. Co., Ansonia, Conn.

Textile-Finishing Machinery Co., Prov-
idence, R. I.

Embossing Calenders.

Farrel F. & M. Co., Ansonia, Conn.

Textile-Finishing Machinery Co., Prov-
idence, R. I.

Engine Steam.

William R. Thropp, Trenton, N. J.

John E. Thropp & Sons Co., Trenton, N. J.

Engraving Rolls.

Farrel F. & M. Co., Ansonia, Conn.

Hoggs & Pettis Mfg. Co., New Haven.

Grinders and Mixers.

Birmingham Iron Foundry, Derby, Conn.

Farrel F. & M. Co., Ansonia, Conn.

John E. Thropp & Sons Co., Trenton, N. J.

William R. Thropp, Trenton, N. J.

Hangers.

Farrel F. & M. Co., Ansonia, Conn.

Hose Machines.

A. Adamson, Akron, O.

Birmingham Iron Foundry, Derby, Conn.

Farrel F. & M. Co., Ansonia, Conn.

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